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ABSTRACT

This report combined all information and research data compiled by the Economic Commission for Latin America and the Latin American Institute for Economic and Social Planning about human resources, education, and development for Latin America. The first section examines the demands of development on the educational system in terms of training skilled manpower and full employment. Sections II and III review the relationship between the educational systems and social structure and the guiding values of the educational system. The next two parts analyze the relationship between universities and development and the overall place of education in development planning. The last part discusses how resources are allocated for education. (BC)

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ECONOMIC COMMISSION FOR LATIN AMERICA

Education, human resources and development in Latin America

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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ABBREVIATIONS AND DOCUMENT SYMBOLS

Abbreviations

AUPELF	Association des universités entièrement ou partiellement de langue française (Association of French-speaking or partly French-speaking universities)
CSUCA	Consejo Superior Universitario Centroamericano Central American Higher University Council
ECLA	Economic Commission for Latin America
FAO	Food and Agriculture Organization of the United Nations
FLACSO	Facultad Latinoamericana de Ciencias Sociales Latin American Faculty of the Social Sciences
ICEM	Inter-Governmental Committee for European Migration
IDB	Inter-American Development Bank
ILPES	Instituto Latinoamericano de Planificación Económica y Social Latin American Institute for Economic and Social Planning
OAS	Organization of American States
OECD	Organization for Economic Co-operation and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization

Document symbols

E/CN.12/...	Economic Commission for Latin America
E/LACCY/BP/...	Latin American Conference on Children and Youth in National Development (Santiago, Chile, 28 November to 11 December 1965)
LARC/65/CONF/...	Latin American Conference on Food and Agriculture (eighth FAO Regional Conference) (Villa del Mar, Chile, 13-29 March 1965)
ST/ECLA/Conf.10/...	Conference on Education and Economic and Social Development in Latin America (Santiago, Chile, 5-19 March 1962)
UNESCO/MINEDECAL/...	Conference of Ministers of Education and Ministers Responsible for Economic Planning in Latin America and the Caribbean (Buenos Aires, 21-28 June 1966)
UNESCO/SS/Ed.Inv. ...	Regional Technical Assistance Seminar on Investment in Education in Latin America (Santiago, Chile, 5-13 December 1966)

Chapter I

INTRODUCTION

Several of the projects of economic policy-oriented research undertaken by the Economic Commission for Latin America and the Latin American Institute for Economic and Social Planning during the past few years have required the application to educational and manpower training problems of the tools of analysis that the Commission and the Institute have evolved for the study of Latin American development in general. A series of papers prepared for regional meetings have tested against Latin American realities current theories and recommendations deriving mainly from the experience of other regions. [1]

The present study brings together the main ideas and conclusions that have emerged from this comparison, fills some gaps left by the studies undertaken for more restricted purposes, and gives more attention than has been possible in previous studies to interrelationships and questions of compatibility between different approaches to economic policy and planning, without, however, pretending to offer definitive answers to most of the questions it raises. As will be pointed out repeatedly in the following pages, the many deficiencies of the factual information now available and the current re-thinking of the meaning and requisites of development combine to rule out such answers. The interplay between education, human resources and development is considered here under the following headings.

1. The human resource demands of development in their two aspects:

(*a*) The demands of development on the educational system in terms of training skilled manpower to fill specific occupational roles as well as the social and political roles essential to the functioning of modern urban-industrial societies;

(*b*) The demands of development on the educational systems in terms of full employment objectives and the elimination of social and occupational marginality. It has been possible to discuss the first of these aspects in some detail. The second is mentioned in several different contexts as a problem that has thus far received little serious study in spite of its importance.

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[1] Contributions of this kind have been made to the Latin American Conference on Education and Economic and Social Development (Santiago, Chile, 1962); the Seminar on Problems and Strategies of Educational Planning in Latin America (Paris, 1964); the Latin American Conference on Children and Youth in National Development (Santiago, Chile, 1965); the Conference of Ministers of Education and Ministers Responsible for Economic and Social Planning in Latin America and the Caribbean (Buenos Aires, 1966); and the Regional Technical Assistance Seminar on Investment in Education in Latin America (Santiago, Chile, 1966). The Institute's courses on educational planning have called for the preparation of additional studies on many of the topics dealt with in the present publication.

2. The relationships between the educational systems and the social structures typical of Latin America, with particular reference to the educational demands made by different strata within these structures, the degree of compatibility or incompatibility between such demands and those discussed under point 1 and the implications for education of present trends of social structural change.

3. The guiding values of the educational system at each level of schooling and the values that order the scales of occupational prestige, expressed in status and income differentials, problems of compatibility of these values with one another and with the requirements of development. In relation to points 1 and 2 attention will be focused on intermediate education, which has the main responsibility for selecting and preparing young people for different lifetime occupational and other roles.

4. The relationships between the universities and development: at the higher educational level, the nature of the demands made on education change in important respects, while the institutions themselves have, at least potentially, a more autonomous role, both in the determination of their own policies and in the exertion of influence on over-all development policy — the latter through their leadership in research as well as through their concentration of strategic sectors of organized public opinion (students, professors, graduates).

5. The place of education in development planning: the state of development planning in Latin America, in aspirations and in practice; the problems of integrating social policy and programming in the separate social sectors with over-all development planning; and the potential scope and instruments of educational planning will be touched upon, but a detailed presentation of educational planning concepts and methods will not be attempted. [2]

6. The allocation of resources for education: the volume of resources now devoted to education and their distribution will be related to the requirements and demands previously discussed. Problems of efficiency in the use of resources devoted to educational and training programmes will be considered, as will the potentialities and limitations of sources of funds other than the general revenue available for allocation through the public sector.

The above listing suggests the interpretations of "education", "human resources", and "development" on which the discussion will be based. In recent studies and policy formulations in Latin America and elsewhere, the meanings given to these apparently straightforward terms have been shifting and broadening as the inadequacies of previous definitions for planning purposes have been demonstrated by experience.

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[2] A study entitled "Educational planning: conceptual and methodological aspects" is shortly to be published by the Educational Planning Section of the Latin American Institute for Economic and Social Planning.

For the purposes of this study "education" will include the whole range of alternative or complementary means by which knowledge, values and specialized skills are transmitted and behaviour patterns altered. While formal schooling will remain in the forefront of attention, the more easily quantifiable aspects of such schooling are not the most important when the developmental role of education is under consideration. The gathering of a specified number of children and young people in buildings labelled schools, under the care of persons labelled teachers, for a specified number of days in a specified number of years is not legitimately an end in itself but a means to various ends, some of which can be attained in alternative ways—without the school building and the teacher—, while others cannot be attained by the school unless certain minimum prerequisites are also present in terms of family life, level of living, and channels for social mobility and participation. It will not be possible within the limits of the present study to discuss all the potentially important means of education, training and "socialization"—for example, mass communication media, youth organizations, extension services, and the family itself—but these means need to be kept in mind.

"Human resources"—a term which different schools of thought have invested with a variety of broad and narrow definitions—will refer to the population of working age assessed against the whole range of qualifications needed for the functioning of the productive system and for the achievement of the kind of social order implied by current conceptions of human rights.

It follows that "development" will not be interpreted simply as a process of production and income growth, resulting from an increase in investment, in which investment in human resources complements other forms of investment with equally predictable effects on production. Here development is considered to be, *inter alia*, a process of social change involving the roles, aspirations, power relationships and capacity for participation in the national society of all strata of the population. Education contributes in many ways to this process, as a source of pressures upon the societies and economies and as a recipient of pressures from within them. The sum of these pressures is unlikely to coincide fully with the intentions of any one of the sources of pressure, and the ability of the State to mould the educational system so as to produce the results required by its concept of development priorities is very far from being unlimited.

Educators, economists, manpower specialists, employers, political leaders and the general public have proceeded from separate assumptions concerning education to separate conclusions concerning policy and priorities. The number of conferences intended to establish a dialogue between these groups indicates a public consensus that such isolation is undesirable. The conferences have done a good deal to overcome it, but they have been more conducive to agreement in general terms on the importance of education than to a searching examination of the different assumptions and approaches. The tendency of policy-makers as well as of specialized professionals to give only perfunctory attention to considerations outside their normal range of interests is hard to overcome, but the present study is intended to stimulate a wider understanding of the complexity of its subject-matter by examining the different aspects involved from a unified point of view.

Public justifications for educational expansion are based on two well-known concepts: that of human rights and that of human resource development. Both have been translated into governmental directives to the educational systems in terms that are similar throughout Latin America. If narrowly interpreted, the criteria of human rights and human resource development may indicate different priorities for the lines along which the educational system is to develop, but for the most part they are compatible and complementary. Both call for universal and uniform general education of a duration and quality that will enable all children to function as responsible citizens, producers and consumers in modern society and offer them access, based on individual abilities, to the higher rungs in the educational ladder. Both support the expansion and diversification of middle and higher education, to enable individuals to realize their potentialities to the full and to assume increasingly differentiated and complex occupational and social roles. Both seek maximum access for the adult population to continued study, training and intellectual growth. In fact, the short-term conflicts over allocation of resources that derive from the two concepts (e.g., universalization of primary education *versus* accelerated training of intermediate-level technicians) seem to be much less important than the conflicts arising from less overt claims on the educational system, such as the pressures for expansion of public employment and the determination of privileged social groups to secure for their children educational certificates conferring high status.

Two other purposes or functions of education need to be mentioned. These are sometimes alluded to in official policy declarations and have been discussed from diverse points of view by sociologists, educators and political leaders, but they cannot be translated into quantitative targets in the same way as the objectives related directly to human rights and human resources. These two functions are, up to a point, compatible with each other and all educational systems in reality contribute to both, in varying proportions, whether deliberately or not. On the one hand, the educational system is expected to reinforce and carry forward into the rising generations the dominant values, status symbols and occupational preferences, of the society that supports it. On the other hand, it is expected to stimulate changes in the existing economic and social values and relationships.

The latter function can be embodied in a planned and comprehensive policy, as in the case of revolutionary Governments that have used the educational system to inculcate new values and, through control over admission to the higher levels, to open up opportunities for young people from the lower social strata to displace the classes previously monopolizing high-status and directive positions. Educational policy can achieve the same aim in a more restricted sense if it concentrates on expanded training in professional and technical specializations that would be required at a higher level of development but that do not fit into the existing occupational structure. The graduates then face the challenge of changing the existing society and economy so that it can make use of their talents.

This kind of expectation seems to be implicit in a good many formulations of the relation of education to development in Latin America, but its validity as a guide to policy seems questionable. In practice, even if an educational system is designed to perpetuate the *status quo* or if it has made no deliberate choice between the above alternatives, the very fact of its expansion beyond a certain point makes the preservation of existing status and occupational relationships increasingly impracticable. It can be assumed, however, that the tensions and pressures generated under these conditions will not be easily reconcilable with the objectives of "development", however development may be defined.

To assess the relevance to Latin America of the educational justifications and manifest or latent functions described above, it is necessary to understand specific processes of economic growth and social change now taking place, and the wide differences between the Latin American countries. Economic growth in the region as a whole during the nineteen-sixties has fallen far short of its targets, fluctuating widely from year to year, and has been extremely unevenly distributed between countries, internal regions and sectors of the economies. Its benefits have also been unevenly distributed. The limited evidence available suggests that in most countries disparities in income distribution have become more marked; that the majority of the population has benefited little, if at all, from increases in *per capita* national income, although the size of the strata able to participate in these gains has probably grown; and that the position of the lower-income strata is deteriorating in absolute as well as relative terms. The apparent incapacity of industry and other dynamic sectors to absorb more than a small fraction of the labour force displaced from agriculture and artisan occupations is a particularly ominous symptom.

It can be taken for granted that the capacity of different population strata to influence development policies and the tenor of economic growth in accordance with their own needs is also very unevenly distributed. Nevertheless, urbanization and the gradual disintegration of the structures that formerly kept the rural societies in relative isolation are increasingly drawing the whole population into direct relationships with the national political process and exposing it to the full impact of economic and social change. This means that large strata now in close contact with the national economies and societies are able to participate in them only "marginally". Traditional occupations are less and less able to afford them a livelihood, urban communication media urge them to take up more varied consumption patterns, while political movements and the State itself inform them of their right to social services and a more adequate level of living. Increasing poverty, whether absolute or in terms of the widening gap between felt needs and incomes; increasing insecurity (of employment, community and family ties, shelter, ability to cope with problems); and increasing geographical and occupational mobility combine to make up the phenomenon commonly labelled "marginality".

The contradictions and inequities in present trends of economic growth and social change are directing attention to the potential contributions of education—along with other sectors of public social action—to income redistribution, full employment, and the strengthening of popular capacity to participate in development policy and overcome social and occupational marginality. These potential contributions are obviously very closely related to one another. In one sense, any allocation of public resources to education that reaches the low-income strata and exceeds the contribution of these strata to public revenue constitutes a direct contribution to income redistribution, through the improvement of one component of family consumption; this contribution is superficial and deceptive, however, unless the education obtained is above a certain minimum duration and quality and unless it leads to a wider diffusion of employment affording a satisfactory income. Effective participation in the struggle for development and in the distribution of its fruits presumes sufficient formal education for the strata that are now marginal to enable them to make organized and realistic demands. Similarly, the formulation of demands for effective education of their children is one of the most important ways in which these strata can begin to participate in development policy.

Some of the factors underlying present development demands upon education can be quantified, although the figures are likely to have a wide margin of error and do not reveal the extent of the national and local disparities. Between 1965 and 1980, the population of Latin America will rise from 236 million to nearly 364 million; the number of children between 5 and 14 will rise from 61 to 93 million; the population of active age (15-64) will increase from 163 to 212 million; and the labour force seeking employment will climb from 77 to 120 million.

If the economies maintain moderate but steady rates of growth close to 6 per cent annually (equivalent to gains of 3 per cent *per capita*), the regional gross domestic product will expand from 89,000 million dollars in 1965 to around 200,000 million in 1980. The maintenance of such rates of growth over the long term implies far-reaching changes in the structure of production, in institutions, and in the societies themselves. The supply of goods and services to meet the material and cultural needs of the people would be greater, but so would their requirements. If economic growth is to be accompanied by substantial improvement in the relative position of the low-income strata—an objective insisted upon in regional as well as national policy commitments—agricultural production will have to expand nearly twofold. If Latin American economic integration makes significant progress, manufacturing production will have to increase virtually threefold. Meanwhile, economic growth will entail a widespread process of technological assimilation, extensive changes in the structure of employment, a considerable elevation of the qualifications demanded for employment in the different economic sectors, and a sizable increase in productivity per person employed. In manufacturing, it is likely that the average annual increase in labour productivity will have to be of the order of 4 per cent, if the over-all *per capita* growth rate is to be maintained, because of the differential growth of more technically complex industries, the modernization of the traditional manufacturing industries, and the increase in the ratio of factory-type to artisan-type industry. In agriculture, present objectives of land reform and modernization imply an enormous increase in the heretofore puny demand for professionals, technicians, and skilled labour, and also in the demand for a wide range of specialists in administration, management of co-operatives, rural social programmes, etc. Comparable changes in productivity and demands for specialized skills can be expected in other sectors of employment. The increasing scale of urban growth and concentration will call for higher productivity in existing services and the establishment of complex new services if the cities are not to be strangled by infra-structural bottlenecks and social conflict.

The existing qualification levels of the labour force constitute the base for the estimation of needs and the determination of strategies to meet those needs, but present manpower statistics are extremely deficient for this purpose. It is likely that in 1965 less than 1 per cent of the 77 million employed or seeking employment qualified for inclusion in the category of "professionals", while less than 3 per cent belonged to an intermediate or sub-professional category. (The composition of these two categories is heterogeneous, but in general the functions performed by the professionals require university-level education, while the functions performed by the sub-professionals require middle-level education.) Another 3 per cent of the economically active population were in administrative and managerial posts, while a little over 11 per cent could be classified as salaried employees and salesmen, and a little over 12 per cent as services personnel. The remaining 70 per cent of the active population, of whom about two thirds were in agriculture, were directly engaged in production, whether as self-employed farmers and artisans or wage-earners. Less than 10 per cent of this group could be described as "skilled" and nearly two thirds seem to have had no formal training whatever, with the latter proportion rising to four fifths in the case of agriculture. The word "formal" needs to be emphasized, since it can be assumed that a large part of the labour force in agriculture and in artisan occupations has acquired some degree of skill through traditional channels.

A parallel assessment of the educational profile of the employed population in the same year, on an even shakier statistical basis than in the case of the estimates cited above, suggests that slightly over 1 million persons had studied at the university level, whether or not they completed the full course, while 37 million had less than three years of primary schooling or none at all. Out of the nearly 9 million persons who had received some kind of middle-level education, only the minority had completed their schooling.

It seems justifiable to conclude not only that the proportion of employed persons holding posts requiring specialized skills is very low in relation to development needs but also that a considerable number of the persons now holding such posts have not been fully equipped for them by the educational system.

These estimates are presented in more detail in chapter II, where the reservations as to their reliability and meaning are also considered. They are cited here for illustrative purposes only. It seems obvious that occupational and educational patterns of this kind cannot be accepted for the 120 million people that will constitute the labour force in 1980. The magnitude of the effort required can be projected as follows. By 1980, around 1.2 million high-level professionals will be needed, that is, nearly double the present number, and their distribution among different professional specializations will have to be very different from what it is now. The number of persons with intermediate training should be nearly tripled, the internal composition of the category transformed, and the training itself brought into closer correspondence with the changing demands of the economies and societies. This would permit some improvement in the notoriously unsatisfactory ratios that now exist between senior and auxiliary staff in many professions. Within the large category of production workers, the proportion of skilled labour should be raised from 10 to a minimum of 15 per cent, which would mean nearly trebling the absolute numbers.

These objectives imply that educational output, particularly at the intermediate and higher levels, needs to maintain high rates of increase, and that at the same time its composition should undergo drastic changes. It would be a mistake, however, to translate the requirements mechanically into terms of higher enrolments and additional resources for education.

For one thing, present rates of technological and institutional change, and the availability of alternative methods of imparting specialized skills outside the schools preclude a detailed long-term matching of educational output and occupational requirements. In relation to a good many of the middle-level skills required and even some of the high-level managerial and entrepreneurial functions, it is arguable that the really indispensable function of the school is to impact the basic intellectual tools and aptitudes for the subsequent acquisition of specialized skills on the job.

For another, few of the Latin American countries are likely in the near future to be able to allocate to education sufficient resources to enable the system to assume the entire burden of raising labour force qualifications to the desired level. Human, as well as financial resources are in short supply, since the persons qualified to teach the most urgently needed skills are also most in demand for the direct practice of their professions.

Moreover, as was suggested above, the ability of the public authorities to remodel educational or other social programmes is restricted by the heterogeneous pressures on these programmes. This limitation is reinforced by the continuing discrepancies between development needs and real rewards in terms of income, status, and employment security offered by the different careers to which education leads.

Broadly-planned efforts maintaining vigour and continuity over a long period are clearly needed to increase the internal efficiency of the educational system and its contribution to occupational qualifications. Even though the forecasts of occupational skills needed cannot be satisfactorily translated into precise demands upon the educational system, such planning cannot progress without a framework of statistical information on educational and occupational profiles that is more detailed, reliable and up to date than the data now available, with systems of collection and classification deriving from the real needs of its users. The re-thinking of informational needs and the discovery of more effective means of meeting these needs is one of the more urgent tasks for the immediate future.

It is necessary to ask at the same time whether development requirements themselves and the rates of technological innovation to be aimed at in the different occupational sectors should not be reviewed in order to bring them into closer correspondence with the kind of labour force that is to be expected, given the probable future capacity of the educational system, along with other factors. Evidence is accumulating that indiscriminate importation of the latest models of labour-saving capital-intensive technology from industrialized countries in which labour is scarce and well educated while capital is relatively plentiful guarantees continued "marginalization" of a large part of the labour force.

In quantitative terms, education in Latin America has maintained more sustained and consistent rates of expansion over a long period than the other sectors of public social action or the economies themselves. Between 1956 and 1965, the percentage of the total regional population enrolled in schools of some kind rose from 13.3 to 17.1. This gain required an average annual rate of increase of 7.2 per cent, about two-and-a-half times the regional rate of population growth. During the same period, enrolment at the primary level rose by 57.6 per cent, enrolment at the middle level by 110.6 per cent and enrolment at the higher level by 92.3 per cent. These differential rates of increase reduced to the overwhelming predominance of primary enrolment to some extent, although not to the proportions typical of the high-income industrialized regions. The share of primary in total enrolment fell from 86.0 per cent in 1957 to 82.2 per cent in 1965, while intermediate enrolment rose from 12.4 per cent to 15.8 per cent and higher enrolment from 1.6 per cent to 2.0 per cent. The rates of increase of the individual countries naturally vary, with relatively low rates characterizing some countries whose enrolment ratios were high at the beginning of the period and also some countries that had started with very low enrolment ratios. With one or two exceptions among the smaller countries, however, every country shares in the upward trend. [3]

A closer look at the character of educational expansion dispels some of the optimism that might be induced by those figures and throws into relief the problems of channelling future growth more closely in line with development requirements. In education as in the other sectors of public social action, models and standards from urbanized, industrialized societies have been superimposed on different realities, on societies that are rigidly stratified and predominantly rural, with traditions of education focused on the granting of academic professional titles and the cultural symbols considered appropriate for *élites* already determined by family membership. In education, the importation of models that are incompatible with those already in existence dates back to the mid-nineteenth century in the form of laws calling for universal education, and for many years educational missions from Europe and the United States have taken part in the efforts to modernize the educational system. The more recent encouragement and technical assistance in educational expansion offered by the international organizations reinforced trends that were visible long before. The attempted application of successive imported educational models offers an interesting parallel to the economies, in which such models have predominated until quite recently at the level both of theory and of applied policies. In education, as in the economic and political systems, the previous structures have shown surprising resilience and adaptability in absorbing the imported models, and in changing without arriving at the fundamental transformations that now seem to be requisites for dynamic development.

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[3] See "Evolution of the educational situation of Latin America" (UNESCO/MINEDECAL/6), prepared by the UNESCO secretariat for the Conference of Ministers of Education and Ministers Responsible for Economic Planning in Latin America and the Caribbean (Buenos Aires, June 1966). This document also presents detailed national statistics.

The desire for education and faith in the advantages to be derived from it, like the desire for development itself, have by now spread through all the social strata, and in statistical terms the broad masses of the population seem to have derived more direct benefit from educational expansion than from the growth of the national product. At the same time, the extreme unevenness in the distribution of education continues to parallel and reinforce the unevenness in the distribution of incomes and wealth. Only certain minorities—by and large the same as the minorities who benefit from economic progress—are able to take full advantage of the expanding supply of educational services. The differential participation of these minorities maintains certain biases in the educational system that restrict its capacity to attract or support full participation by other social strata. The participation attained by the lower-income majority, like its participation in the new sector of urban employment or in the consumer goods market, remains marginal and frustrating in nearly all the Latin American countries. The children of this majority obtain few practical advantages from the kind of education they are able to get, and its contribution to the development of human resources is of limited benefit to national economic growth. Where general educational levels are rising more rapidly than the number of jobs in the modern sectors of the economy, as is commonly the case, it follows that the minimum education demanded from job applicants also rises, and the person entering the labour force with one, two or three years of primary education is at more of a *relative* disadvantage than he would have been a few years previously with no schooling at all.

During the recent years of expansion, the internal efficiency of the school systems, assessed by their ability to retain pupils until the completion of a course, improved hardly at all. In 1957, 41 per cent of the primary enrolment in the region as a whole was concentrated in the first grade and only 7 per cent in the highest primary grade. In 1965, the percentages were 38 and 8. This slight gain is no doubt as much as could have been expected, in view of the many difficulties of incorporating new social strata with very low income levels and no tradition of education. The low retention power of the schools, however, is not limited to the primary levels at which participation by the low-income majority is concentrated. The high rates of wastage that are typical all the way up to the termination of university courses indicate a lack of correspondence between the supply of education and the capacity of the intended consumers, especially young people from lower-middle positions in the social scale, to make use of it. In many instances the expansion of intermediate and higher enrolment, which has been much swifter than that of primary enrolment, has been accompanied by declining rates of retention. Some universities, with considerably increased enrolments, are turning out no more graduates than before. The middle and higher educational levels have also been particularly affected by the downward pressures on quality produced by the confrontation between rapid expansion and inflexible or unstable resources. The numbers pressing into the schools can be accommodated only through larger classes, multiple shifts, under-investment in equipment and books, and the hiring of poorly qualified teachers.

In relation to the small numbers of young people who manage to attain their immediate educational objectives, the increasing outflow of professionals to other regions and the continuing pressure for more public employment are indicative of a maladjustment between the educational supply and the absorptive capacity of the economies. This maladjustment has two aspects that will be discussed in more detail in later chapters, viz.:

(*a*) The distribution of graduates does not correspond to development requirements;

(*b*) The requirements themselves are very poorly translated into effective demand and attractive job opportunities.

The expansion of education has naturally been accompanied by increases in the share of education in total public expenditure and in the national product, although these increases do not seem to be closely related to those in the enrolment rates, and the national differences in systems of financing combine with other problems to make comparisons risky. By 1964, Costa Rica, Peru, Venezuela and probably a few other countries were devoting 5 per cent or more of their gross domestic product to education, which was more than double the percentages of some of the other countries.

These trends are bringing the countries in which education has expanded at the highest rate to the point at which difficult choices must be faced. Where public allocations for education have reached 4 or 5 per cent of the product, they cannot be raised much more. The claims of other sectors of public social action, which have generally received much lower and less dependable allocations than those for education, are bound to become more insistent. According to a hypothetical calculation presented in chapter VII, present public expenditures on education in the region as a whole amount to about 3,000 million dollars annually, or a little more than 3.5 per cent of the gross domestic product. A continuation of present upward trends would call for an annual expenditure of 11,000 million dollars by 1980, or about 5.5 per cent of the gross domestic product, on the possibly optimistic assumption that the gross domestic product *per capita* would attain a steady rate of increase of 3 per cent annually. External aid, while it may bring substantial support to specific areas of higher education and technical training has inherent limitations that will keep it from doing very much to alleviate the over-all burden of expenditure.

For several reasons, educational costs can be expected to rise faster than enrolment unless quality is allowed to drop still more and the above projection allows for this. The educational levels of the teachers themselves will rise and their growing numbers will enable them to make increasingly potent organized demands for incomes corresponding to their educational qualifications. Their strength is indicated by the fact that in many countries the educational sector is now "the next largest 'industry' to agriculture in terms of employment". [4] Effective primary education for the children of low-income families will also require considerable increases in the very meagre sums that have been allocated to school supplies and aid to families in meeting the minimum requisites of school attendance including enough food to sustain the children's capacity for study.

Even more important is the fact that the differential expansion of middle and higher education will bring disproportionate cost increases. Growth of enrolment at the primary level is already producing irresistible pressures for expansion at the next higher levels. To the extent that better planning and improvements in internal efficiency raise the retentive capacities of the schools, thus permitting more students to complete the primary and middle courses, these pressures will become stronger. Development requirements fully justify this differential expansion although those requirements call for a distribution of the expanded enrolment that differs considerably from the distribution that the internal pressures are likely to produce. The present annual cost per primary pupil has been calculated at 42 dollars, for academic secondary schooling it rise to 155 dollars, for vocational or teacher training to 210 dollars, and for university training to 700 dollars. The higher unit cost for vocational education deserves emphasis, as this factor is commonly disregarded in proposals for the rapid transformation of intermediate education. Moreover the specialized studies in technology and science that are now most needed at the university level have much higher unit costs than the 700-dollar average.

The strategic role now envisaged for education within development policy, together with the magnitude of its claims on public resources, have placed it in the lead among the sectors of public social action in critical examination of its own purposes and methods, in the organization of planning machinery, and in the search for effective links between sectoral programming and over-all development planning. Educational planning offices have been set up in all but one of the Latin American countries, the annual courses of the Latin American Institute for Economic and Social Planning have equipped the countries with a nucleus of trained specialists to staff the offices, and practically all the countries of the region have formulated plans or more restricted statements of objectives for education, whether separately or as components of their general plans. Educational shortcomings have been discussed with remarkable frankness in a series of official reports presented at regional conferences. Among educational planners, insistence on better use of the resources already available in pursuance of clearly defined objectives and on the tapping of new kinds of resources suggested by the objectives themselves is replacing the previous insistence on ever larger public allocations for education. If tangible achievements in educational reform and planning have thus far been slow to appear, this is to be expected in a policy area so sensitively and intricately involved with the existing social structures. The newer outlook has not penetrated very far as yet into the ranks of teachers and educational administrators, and it can have penetrated hardly at all among the consumers of education: the families with school-age children, and young people.

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[4] "The financing of education in Latin America" (UNESCO/SS/Ed.Inv.7), prepared by the UNESCO secretariat for the Regional Technical Assistance Seminar on Investment in Education in Latin America (Santiago, Chile, December, 1966).

At the same time, over-all development planning cannot be said to offer as yet an adequate framework for the incorporation of educational planning. The difficulties lie not only in the weakness of organizational links and in conceptual or theoretical divergencies on the place of education in over-all planning, but also in the numerous practical frustrations that have been encountered by planning in settings of political instability, entrenched special interest and public sector resources that are both low and subject to wide fluctuations from year to year. These questions will be discussed in more detail in chapter VI.

This panoramic and highly simplified view of educational trends in Latin America needs to be corrected by some recognition of the wide differences between countries, and for this purpose a rough typology may be useful. Four national patterns can be distinguished, in which differing economic levels and rates of growth and differing processes of social structural change (among which urbanization in a broad sense now seems to have a dominant role) imply differing opportunities and limitations for the educational systems. It would be futile to try to fit all of the countries into such a typology; several present intermediate situations or anomalies deriving from special political or economic circumstances, and in one country—Cuba—education has the central role in a transformation of the whole society that represents a deliberate political rejection of most of the features that are common to the types described below:

I. Countries with high *per capita* incomes in relation to the regional average, low average rates of economic growth over the past decade, high degrees of urbanization, relatively large percentages of the population in middle social strata, and educational levels well above the regional average. In these countries, education already absorbs a high proportion of the national product, and its internal driving power for further expansion, particularly at the middle and higher levels, is strong. Since the low rates of economic growth limit the expansion of public revenues and the latter are subject to insistent claims from many sectors, the satisfaction of educational claims becomes increasingly difficult. At the same time, there is little external demand for the output of the educational system. The private sector can absorb only a fraction of the graduates and the public sector can accept them only at the price of budget deficits and expansion of an already top-heavy body of public employees. The need to reform and diversify education is obvious to policy-makers and planners, and the educational sector has the technical capacity to carry out such reforms, but the occupational and other demands for educational change are unable to offset the momentum making for expansion within the traditional channels. In such countries, a considerable emigration of professionals and technicians can be expected. To varying degrees, Argentina, Uruguay, and Chile are examples of that type of country.

II. Countries with high to medium *per capita* income levels and rates of growth in relation to the regional average, with national figures that conceal particularly wide internal disparities, with urbanization and middle strata that are increasing rapidly but are still some distance below the levels characteristic of the first type of country, and with educational levels that are rising fairly rapidly from low starting-points. These countries have reached stages of industrialization and economic diversification at which shortages of technicians, skilled workers, and literate workers readily absorbable by industry are obvious bottlenecks in the capacity for further development. At the same time, public institutions have a real need of qualified administrators, economists, social scientists and others that cannot be satisfied by the existing educational system. On these countries the capacity for allocating increased resources to education is good, although far from unlimited, the internal impetus for the expansion of education is strong but confused, and the external (occupational) demand for educational reform and diversification is fairly effective, but the technical capacity of the educational system to carry out reform with the human resources currently at its disposal is more limited than in the first group of countries. The result is likely to be the appearance, under both public and private auspices, of a wide variety of unco-ordinated educational and training mechanisms to meet urgent needs for specialized skills, while the remainder of the educational system continues to grow in some disorder and with considerable internal conflict. Venezuela seems to approximate to this type, with some unique features deriving from its exceptionally rapid and unbalanced economic and urban growth, and so do Brazil, Colombia, Mexico and Peru.

III. Countries with medium to low *per capita* income levels but with high rates of growth based on exports of raw materials, and with urbanization and the middle strata increasing at roughly the same rates as in type II, but from much lower initial levels. Over-all educational growth also shows rates similar to the countries in group II, but levels are lower and enrolment is more concentrated in the primary schools. Here the apparent requirements for educated persons are very high in relation to educational output, and public allocations to education constitute rather low percentages of the national product, but the internal impetus towards educational expansion is relatively weak, while the effective occupational demands for a higher and different educational output are not very insistent, and the technical capacity of the educational system for internal reform is low. The ability of the public sector to capture a larger share of the national product and thus increase the educational allocation is also likely to be limited. Under such circumstances the most vigorous urgings toward educational expansion and reform are likely to come from international bodies that compare existing levels with development requirements and the capacity of the economies to support more education. Several of the smaller countries of Latin America seem to conform to type III.

IV. Countries with low *per capita* incomes and little or no economic growth, with small middle strata and limited urbanization, both with slow rates of growth, and with low and nearly static educational levels. In these cases, limited capacity to support education, weak social pressures for education, and the occupational sectors' scant ability to absorb educational output coincide. In terms of ideal development requirements, the educational needs of such countries are enormous, but they have little capacity either to expand education or to absorb skills requiring education. These countries thus paradoxically share with those of type I particularly high rates of loss through emigration of the few professionals and technicians they do manage to produce. In present-day Latin America, Haiti seems to approximate more closely than any other country to this type, but its traits have emerged in other small countries during periods of political upheaval or of depressed export markets, and the possibility of becoming entrapped in this kind of low-level stagnation signifies that the smaller countries are in particularly urgent need of educational as well as economic integration

This study deliberately refrains from presenting a final summary of conclusions and recommendations. Latin American educational authorities have at their disposal sets of recommendations dealing with every aspect of educational policy and endorsed by a long series of world and regional conferences sponsored by various intergovernmental organizations. It would be pointless to repeat these, and invidious to single some out on the grounds of internal consistency and applicability to Latin American realities. Moreover, the kind of analysis undertaken in the following chapters is designed to explore the complexity of the requisites for attaining the generally accepted objectives associated with human rights and human resources development. An effort of this kind will not produce simple formulas applicable to the region as a whole, but it may help planners and educators to grapple with the protean phenomena on which they must try to impose order and direction.

Chapter II

REQUIREMENTS OF HUMAN RESOURCES IN THE DEVELOPMENT OF LATIN AMERICA

Educational planning and the planning of human resources are not synonymous. The latter is, in fact, a concept that is broader than the former in one sense, and narrower in another. When the planning of human resources is spoken of in the strict sense of the term, people are being considered as factors of production or inputs, and the object is to make them as effective and productive as possible. In this respect, educational planning is more comprehensive since it has more than one purpose. In another sense, the planning of human resources is a more ample concept in that it embraces all the processes, over and above vocational training, that are associated with the more efficient use of a trained labour force (e.g., organization of the labour market). The factor that is common to both concepts, and forms the main theme of this document, is vocational training in the broadest sense, whether provided by the formal educational system or by other means.

As far as Latin America is concened, the starting-point for both types of planning in the past has always been their subordination to the general targets of over-all income growth. Thus, one of the possible options has been chosen. It is obviously feasible to calculate manpower requirements from sectoral plans, and the path taken is, in itself, logical and consistent. But there is another possibility, namely, that considerations relating to the use of human resources and to employment policy could be the starting-point for the formulation of general plans. The decision as to which alternative to choose seems to be governed by political rather than technical considerations.

Although the selection of one of these approaches should imply that it is pursued to its ultimate consequences, a study of what has been achieved in educational planning in Latin America clearly shows the lack of effective integration with general development planning. In fact, the points of contact between the two do not go much beyond a formal complementation, the common use of certain demographic projections, and the earmarking of funds for educational purposes—all too often estimated on the basis of very general criteria—within the framework of the over-all allocation of resources.

This lack of integration is attributable not only to the educational planning process itself, but also to the shortcomings of the general plans as regards the very aspects that should give greater scope and guidance to the education programme. In particular, the planning of human resources has not been approached from the standpoint of general planning. Although many studies have been carried out in this field, most of them represent

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isolated efforts that do not add up to a general view of economic and social development. This is apparent from the failure to translate general and sectoral economic growth targets into terms of manpower employment, productivity and skills, and from the lack of clearly defined policies on employment and the introduction of new techniques to provide the essential basis for planning educational and training requirements.

These shortcomings are, in their turn, partly due to the lack of statistical information, of standard criteria for the organization and collation of data in line with the specific aims of educational planning, and of a methodological approach adapted to Latin American conditions. As a result, most of the Latin American countries do not have a reliable picture of the occupational structure of the active population, or of the educational pattern of either the active population or the population as a whole.

In these circumstances it is difficult for educational plans to do more than establish specific aims for quantitative expansion of the existing system, devise programmes to make the system more rational and efficient, and estimate the funds necessary for those purposes. Any qualitative or policy changes that are made are the result of the discovery of weaknesses or problems that show up in practice, rather than an anticipation of those likely to arise in the future. Thus they lack the quality of far-sightedness, which is one of the main attributes of planning, and which is especially important when, as in education, a relatively long period of "maturation" is involved.

Hence certain basic propositions accepted as guiding principles for future educational activities are posed in such general terms that it is difficult to put them into practice. For example, although the need to expand secondary education is recognized, it still has to be made clear what proportion of those who complete the cycle should go on to the university, and for what proportion other openings should be available that would ensure their taking up careers useful to the community. Similarly, although it is accepted that there is an urgent need to provide more technical training, there is no clear definition of the part to be played by secondary education and the intermediate levels of university training, nor is there any precise indication of the numbers involved or of their distribution by type of specialization. Again, although the need to increase the proportion of skilled workers has been established, no estimation has been made of the approximate numbers involved nor any clear definition of the limits of responsibility and necessary degree of co-ordination between training offered within and without the formal school system.

Orders of magnitude of this kind should, however, constitute the basic frame of reference for educational planning that would be in line not only with the general aims of education itself, but also with development requirements in terms of human resources.

The purpose of the following paragraphs is to present such a frame of reference for Latin America as a whole. In view of the lack of systematic data on most of the subjects referred to, the figures used are, of course, only estimates, and in some cases frankly hypothetical in character. They are included mainly for purposes of illustration, and to provide a basis for certain additional observations on the present situation and the outlook for the next fifteen years.

A. The present situation

1. POPULATION, EMPLOYMENT AND PRODUCTIVITY

The total population of the twenty Latin American countries in 1965 can be estimated as about 236.6 million. Nearly 39 million (16.5 per cent of the total) were less than 4 years old, and 61.1 million (almost 26 per cent) were between 5 and 14 years old. In other words, the under-15 population represented slightly over 42 per cent of the total population.

The economically active population in 1965 amounted to 77.9 million, or 33 per cent of the total. Of the male population over 14 years of age, 90 per cent belonged to the labour force, while for women the corresponding proportion was less than 20 per cent.

It should also be noted that nearly 5 per cent of the total active population consisted of children aged 10-14 representing no less than 15 per cent of all children of this age group.

At present the annual growth rate of the economically active population is close to 2.9 per cent, which in absolute terms represents an increase of 2.2 million every year. This rate is practically the same as that for the population as a whole, and appreciably higher than it was in recent years, when the 0-14 age group was expanding more rapidly than any other in most of the Latin American countries. A slight decline in the fertility rate in the future, and hence some reduction in the proportion represented by the under-15 group, will, in turn lead to a somewhat higher growth-rate for the active population than for the population as a whole. The annual growth-rate may well be over 2.9 per cent by 1980, which would mean that the population of active age would double every twenty-three or twenty-four years.

In order to assess what needs to be done in the training of human resources, separate consideration should be given to the factors determining the net increase, namely, the number entering the active population and withdrawals through retirement or death. For 1960 the entries can be estimated as 2.7 million, and they will probably amount to about 5.1 million by 1980; annual retirements from the active population, through reaching pensionable age or through other causes, are expected to increase from nearly 410,000 to 715,000 during the same period, and annual deaths in the active population to increase from 630,000 to 810,000, which will represent a sharp decrease in the death rate.

It should be noted that there are appreciable differences in this respect between the male and female population. The age composition of the entries into the active population is such that 56-57 per cent of the males in this group are under 15, about 35 per cent are aged 15-19, and only 10 per cent are 20 or over. The age structure is younger for women, since the corresponding percentages for the three age-groups are 70-72, 26-27, and only 2-4 respectively. In both cases there is a notably high proportion of very young people in the new entries into the labour force, which in itself makes it unlikely that the new entrants can have received much education or training, or will achieve satisfactory productivity levels, unless a determined effort is made to provide in-service training.

The differences are even sharper in the case of retirements. In the male population, withdrawals begin to be substantial at the age of 50, since only 10-11 per cent of withdrawals are of men under 50, whereas 40 per cent are of men aged 50-65. For the female population, the bulk of withdrawals are of women under 35, amounting to about 66 per cent of total female withdrawals.

Such are the demographic indicators that are particularly relevant, in view of their obvious importance in educational and manpower planning. From another standpoint, these indicators need to be supplemented by others relating to the sectoral structure of employment and the average productivity of the labour force in each sector. It is estimated that the domestic product for Latin America as a whole for 1965 was about 89,000 million dollars, which, in relation to a total labour force of about 77 million, means a product per worker of about 1,150 dollars a year (see table 1).

Table 1

LATIN AMERICA: ESTIMATES OF THE PRODUCT AND EMPLOYMENT, 1965[a]

Sector of activity	*Domestic product (millions of dollars)*	*Labour force (thousands of persons)*	*Product per person employed (dollars per person)*
Agriculture and fishing	19,348	35,499	545
Mining and quarrying	4,279	743	5,760
Manufacturing	20,031	12,048	1,663
Construction	2,869	3,706	777
Basic services	6,731	4,185	1,608
Other services	35,389	20,705	1,709
TOTAL	88,647	76,886	1,153

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

The differences in sectoral productivity revealed by these estimates are particularly significant, despite the high level of aggregation involved in the classification adopted. Each of these sectoral groups should really be subdivided into more homogeneous units, to reveal the diversity of technological levels involved. This consideration is particularly important in relation to manufacturing, since in existing conditions in Latin America manufacturing includes both artisan-type activities—which account for almost half the total employment in the sector—and factory industry, with a productivity ratio between the two of 1:8. Moreover, within the factory component there are great differences in the levels of up-to-dateness, efficiency, and absorption of modern techniques. The "other services" sector likewise represents a group of extremely heterogeneous activities, ranging from domestic service to services involving a high degree of specialization and skill. The agricultural sector in Latin America, too, covers a wide range of situations, and includes a relatively small number (at least in terms of employment) of modern farms, generally specializing in certain export products, and a very large number of subsistence farmers using primitive methods of cultivation.

Hence it is not enough to compare present productivity levels with the occupational structure at the level of sectors defined as broadly as in table 1. Furthermore, any forecast of future changes that will have to be made in the Latin American economy would have to cover both the changes in the relationship between the main sectors, and the consequent structural changes within each sector, a point that will be dealt with more extensively later in this paper.

2. THE OCCUPATIONAL STRUCTURE OF THE LABOUR FORCE

Although the proviso about the limitations imposed by highly aggregative sectoral classification must always be borne in mind, it is useful, at least for the purposes of illustration, to attempt to establish a link between the sectoral distribution of employment and the occupational structure of the labour force.

In this connexion, table 2 gives estimates for Latin America as a whole for 1965, and the derived coefficients are given in tables 3 and 4.

In general these figures confirm the qualitative evaluation—on which there seems to be general agreement—of the relatively low levels of skill of the labour force in Latin America, and supplement it by providing an illustration of the size of the problem in quantitative terms. They also provide additional useful detail on the relationship between the occupational structure of the labour force and the sectoral distribution of employment. It is striking, for example, that of the 600,000 persons described as "professionals", who represent less than 1 per cent of the total labour force, three quarters are employed in the "other services" sector. Agriculture employs less than 3 per cent of this professional group although it absorbs 46 per cent of the total labour force, and this group accounts for only 0.1 per cent of the total number of professionals employed in agriculture in Latin America, which in absolute terms is less than 20,000. A similar number of professionals are employed in the mining and quarrying industries, whose share in total employment is much lower: because of the high technical level of this sector the proportion of professionals employed is 2.4 per cent of the total, the highest in any of the sectoral grouping used, which means that mining and quarrying employ twenty times more professionals per thousand of the total sectoral labour force than agriculture. Manufacturing is in the middle of the scale in this respect, but as a result of the relative preponderance of the artisan component, the figures for manufacturing are much closer to those for agriculture, since it absorbs just over 8 per cent

Table 2

LATIN AMERICA: ESTIMATED OCCUPATIONAL STRUCTURE OF THE LABOUR FORCE, 1965[a]

(Thousands of persons)

Sector of activity	*Total*	*Professional and technical personnel*			*Administrative and managerial staff*	*Employees and salesmen*	*Operatives and artisan workers*				*Services personnel*
		Total	*Professional*	*Technical*			*Total*	*Skilled*	*Semi-skilled*	*Unskilled*	
Agriculture and fishing	35,499	44	18	26	63	133	34,884	1,744	5,232	27,908	375
Mining and quarrying	743	30	18	12	12	52	625	62	135	428	24
Manufacturing	12,048	194	49	145	309	948	10,464	2,093	5,232	3,139	133
Construction	3,706	90	27	63	57	70	3,450	345	1,725	1,380	39
Basic services	4,185	126	32	94	105	629	3,157	316	1,578	1,263	168
Other services	20,705	2,308	460	1,848	1,773	6,749	1,262	126	252	884	8,613
TOTAL	76,886	2,792	604	2,188	2,319	8,581	53,842	4,686	14,154	35,002	9,352

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

Table 3

LATIN AMERICA: ESTIMATED OCCUPATIONAL STRUCTURE OF THE LABOUR FORCE, 1965; PERCENTAGE COMPOSITION BY SECTOR OF ACTIVITY[a]

Sector of activity	*Total*	*Professional and technical personnel*			*Administrative and managerial staff*	*Employees and salesmen*	*Operatives and artisan workers*				*Services personnel*
		Total	*Professional*	*Technical*			*Total*	*Skilled*	*Semi-skilled*	*Unskilled*	
Agriculture and fishing	46.2	1.6	3.0	1.2	2.7	1.6	64.8	37.2	37.0	79.7	4.0
Mining and quarrying	1.0	1.1	3.0	0.5	0.5	0.6	1.2	1.3	1.0	1.2	0.3
Manufacturing	15.7	6.9	8.1	6.6	13.3	11.0	19.4	44.7	37.0	9.0	1.4
Construction	4.8	3.2	4.5	2.9	2.5	0.8	6.4	7.4	12.1	4.0	0.4
Basic services	5.4	4.5	5.3	4.3	4.5	7.3	5.9	6.7	11.1	3.6	1.8
Other services	26.9	82.7	76.1	84.5	76.5	78.7	2.3	2.7	1.8	2.5	92.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

Table 4

LATIN AMERICA: ESTIMATED OCCUPATIONAL STRUCTURE OF THE LABOUR FORCE, 1965; PERCENTAGE COMPOSITION BY OCCUPATIONAL CATEGORIES[a]

Sector of activity	*Total*	*Professional and technical personnel*			*Administrative and managerial staff*	*Employees and salesmen*	*Operatives and artisan workers*				*Services personnel*
		Total	*Professional*	*Technical*			*Total*	*Skilled*	*Semi-skilled*	*Unskilled*	
Agriculture and fishing	100.0	0.1	0.05	0.07	0.2	0.4	98.2	4.9	14.7	78.6	1.1
Mining and quarrying	100.0	4.0	2.4	1.6	1.6	7.1	84.1	8.3	18.2	57.6	3.2
Manufacturing	100.0	1.6	0.4	1.2	2.6	7.9	86.9	17.4	43.4	26.1	1.2
Construction	100.0	2.4	0.7	1.7	1.5	1.9	93.1	9.3	46.5	37.3	1.1
Basic services	100.0	3.0	0.8	2.2	2.5	15.0	75.5	7.6	37.7	30.2	4.0
Other services	100.0	11.1	2.2	8.9	8.6	32.6	6.1	0.6	1.2	4.3	41.6
TOTAL	100.0	3.6	0.8	2.8	3.0	11.2	70.0	6.1	18.4	45.5	12.2

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[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

of all professionals, who account for only 0.4 per cent of the total labour force in manufacturing. This last figure is slightly higher for construction (0.7 per cent) and basic services (0.8 per cent), and much higher for "other services" (2.2 per cent), which include independent professionals, secondary school teachers, salaried professionals and other groups.

Of the 2.2 million included under the heading of "technical personnel", at least a third are primary school teachers, and about another third are accountants and bookkeepers. Hence, the ratio between professionals and technicians, which is particularly significant for the purpose of evaluating the effectiveness of education and training at the higher and intermediate levels, appears highly distorted on the basis of the over-all figures. However, if the two above-mentioned groups are excluded, and a stricter definition of technicians adopted, it seems likely that the figure for technical personnel would not be much higher than that for the professional group, and perhaps even lower in some sectors, notably agriculture.

This type of ratio will be examined in greater detail in later sections, as a basis for formulating a number of hypothetical projections of future requirements. It is sufficient here to indicate another important feature revealed by these estimates, regarding the levels of skill of those included in the category of "operatives and artisan workers", who altogether represent 70 per cent of the total labour force. Of the 54 million in this group, 35 million are unskilled, while 14 million are regarded as semi-skilled, and 4.7 million (less than 10 per cent) as skilled operatives or artisans. Once again, the lowest proportion of skilled workers is found in agriculture, although, in this sector, the concepts of skilled and unskilled are meaningful in only a very few cases. However, the proportions are not very much higher in the other sectors (10 per cent in mining and quarrying, construction, basic services and other services, and 20 per cent in manufacturing).

3. The educational profile of the labour force

Despite these marked shortcomings, the above estimates seem to show that about 7 per cent of the labour force consists of persons carrying out administrative or technical and professional functions, indicating a relatively satisfactory occupational structure at least in this respect. However, this conclusion is subject to reservations as to the real level of training of these professional groups, and more information is therefore needed on the educational profile of the labour force in the main occupational categories.

On this point the lack of a systematic flow of data on present conditions in Latin America is even more striking, although they should constitute the basis for all effective educational planning. Thus, it is once again useful to turn for illustrative purposes to a quantitative framework which furnishes at least some orders of magnitude that appear reasonable in the light of the incomplete and scanty data available. Table 5 represents figures based on a hypothesis of the educational profile of the labour force in 1965, and in tables 6 and 7 these figures are translated into a picture of the percentage composition by occupational categories and levels of training.

Table 5

Latin America: a hypothesis of the educational profile of the labour force, 1965[a]
(Thousands of persons)

	Total	*Professional and technical personnel*	*Administrative and managerial staff*	*Employees and salesmen*	*Operatives and artisan workers*	*Services personnel*
University training (complete and incomplete)	*1,060*	*660*	*230*	*170*	—	—
Secondary education	*8,730*	*1,500*	*1,050*	*3,010*	*2,700*	*470*
General secondary	6,240	640	930	2,580	1,620	470
Complete	1,490	280	350	860	—	—
Incomplete	4,750	360	580	1,720	1,620	470
Technical	1,770	140	120	430	1,080	—
Teacher training	720	720	—	—	—	—
Primary education	*67,096*	*632*	*1,039*	*5,401*	*51,142*	*8,882*
Three years and over	29,700	370	580	3,000	21,540	4,210
Less than three years or none	37,396	262	459	2,401	29,602	4,672
TOTAL	76,886	2,792	2,319	8,581	53,842	9,352

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

An approximate indication of the probable degree of validity of these hypotheses can be obtained by comparison with estimates worked out independently of the distribution by level of education of the total population aged 15 and over, both active and inactive. These calculations are based on the 1950 censuses for sixteen countries of the region and on the 1960 censuses for six countries,[1] and they give the number of grades of schooling completed. In brief, they show that persons with over twelve years of schooling represented only 0.9 per cent of the total in 1950, and 1.6 per cent in 1960 (although these figures are not strictly comparable, since they do not refer to the same countries); those with seven to twelve years of schooling constituted 6 per cent of the total in 1950 and 9.3 per cent in 1960 (in this year a further subdivision was made showing that those with seven to nine years' schooling represented 5.9 per cent of the total and those with ten to twelve years represented 3.4 per cent); those with one to six years of schooling represented 43.8 per cent of the total in 1950 and 52.5 per cent in 1960, again subdivided in 1960 into those with one to three years and those with four to six; lastly, those who had completed less than one year of schooling represented 49.3 per cent of the total in 1950 and 36.6 per cent in 1960.

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[1] The sixteen countries are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Mexico, Nicaragua, Panama and Paraguay; and the six countries are: Chile, Ecuador, Honduras, Mexico, Nicaragua and Panama.

Table 6

LATIN AMERICA: A HYPOTHESIS OF THE EDUCATIONAL PROFILE OF THE LABOUR FORCE, 1965; PERCENTAGE COMPOSITION BY OCCUPATIONAL CATEGORIES [a]

	Total	*Profes-sional and technical personnel*	*Adminis-trative and managerial staff*	*Employees and salesmen*	*Operatives and artisan workers*	*Services personnel*
University training (complete and incomplete)	*100.0*	*62.3*	*21.7*	*16.0*	—	—
Secondary education	*100.0*	*17.2*	*12.0*	*34.5*	*30.9*	*5.4*
General secondary	100.0	10.3	14.9	41.3	26.0	7.5
Complete	100.0	18.8	23.5	57.7	—	—
Incomplete	100.0	7.6	12.2	36.2	34.1	9.9
Technical	100.0	7.9	6.8	24.3	61.0	—
Teacher training	100.0	100.0	—	—	—	—
Primary education	*100.0*	*0.9*	*1.5*	*8.1*	*76.2*	*13.3*
Three years and over	100.0	1.2	2.0	10.1	72.5	14.2
Less than three years or none	100.0	0.7	1.2	6.4	79.2	12.5
TOTAL	100.0	3.6	3.0	11.2	70.0	12.2

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

As these are merely rough estimates relating to varying numbers of countries at different periods, they cannot be expected to coincide with the hypotheses of the educational profile given above. However, this does not rob a general comparison of all its value. For example, the difference in estimates of the proportion of persons with complete or incomplete university training—1.4 per cent of the 1965 labour force, and 1.6 per cent of the total population aged 15 and over in 1960—may be partly a reflection of the significant number of persons with professional qualifications who do not form part of the labour force; this is probably accounted for by the smaller participation of women and their earlier withdrawal. On the other hand, the first hypothesis assumes a rather higher proportion (11.4 per cent) of employed persons with secondary education than is the case with the total population aged 15 and over (9.3 per cent). The greatest difference is in the group with four to six years of schooling, in which the proportion assumed for the labour force (48.6 per cent) is probably rather high, although it must be remembered that the participation rates of this group in actual employment are also likely to be too high in view of the lower educational levels of the female population.

In brief, the hypothesis presented is to some extent confirmed by these other estimates, which, incidentally, once again demonstrate the large part played by estimates in the quantitative data available and the urgent need to provide an organized flow of data of this type.

Table 7

LATIN AMERICA: A HYPOTHESIS OF THE EDUCATIONAL PROFILE OF THE LABOUR FORCE 1965; PERCENTAGE COMPOSITION BY LEVEL OF EDUCATION[a]

	Total	*Profes-sional and technical personnel*	*Adminis-trative and managerial staff*	*Employees and salesmen*	*Operatives and artisan workers*	*Services personnel*
University training (complete and incomplete)	*1.4*	*23.6*	*9.9*	*2.0*	—	—
Secondary education	*11.4*	*53.7*	*45.3*	*35.1*	*5.0*	*5.0*
General secondary	8.1	22.9	40.1	30.1	3.0	5.0
Complete	1.9	10.0	15.1	10.0	—	—
Incomplete	6.2	12.9	25.0	20.1	3.0	5.0
Technical	2.4	5.0	5.2	5.0	2.0	—
Teacher training	0.9	25.8	—	—	—	—
Primary education	*87.2*	*22.7*	*44.8*	*62.9*	*95.0*	*95.0*
Three years and over	38.6	13.3	25.0	34.9	40.0	45.0
Less than three years or none	48.6	9.4	19.8	28.0	55.0	50.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

Even with the reservations alluded to, this hypothesis suggests a series of conclusions that underline the defects in the occupational structure of the labour force from the standpoint of the actual training that has been received by the members of the various categories. A striking example is the paradox of the high proportion of managers and administrators (about 15 per cent of the total) who failed to complete their primary schooling, and the even higher proportion (about 45 per cent) who did not finish their secondary education. Of the group performing strictly professional functions, it appears that 23 per cent have had no more than a primary education, and nearly 10 per cent less than three years' schooling.

However far-fetched these findings may seem, they unquestionably point to the need for a critical analysis of the occupational structure that appears to exist in Latin America, according to the data available, and also for a standardization of concepts and definitions that would permit more accurate assessment. As to the substance of the problem, the inadequacy of the school system has undoubtedly been partly overcome with the aid of practical experience and widely varying methods of training outside the formal system. This shows, on the one hand, how difficult it is to translate employment levels into educational levels and, on the other that the situation is not as unsatisfactory as would appear at first sight from consideration of the educational profile.

Another important point brought out by the tables is the high proportion of the labour force with less than three years' schooling, not only among operatives and artisans and in the personal services sector, but also among employees and sales personnel.

It is useful to supplement this general impression of the educational profile for the main occupational categories by a more detailed study of the situation as it appears to affect skilled staff with complete or incomplete university training, and skilled staff with intermediate vocational training. In 1965 these two categories together comprised about 2.5 million persons, which is slightly over 3 per cent of the total labour force, or only 2.3 per cent if primary school teachers are excluded.

Additional calculations based on incomplete data for Argentina, Chile, Colombia, Uruguay and the Central American countries indicate that of the estimated total of slightly over 1 million university-trained professionals in 1965, about 700,000 had received some type of degree, whereas the remaining third had either failed to graduate, or had graduated from short university courses. Of the graduates, it is likely that about a quarter (180,000) were scientists and engineers; a somewhat lower proportion (about 170,000) belonged to the medical and allied professions; about 90,000 were professionals in the social and economic sciences (including university-level accountants); about 120,000 studied law; 130,000, the humanities and education; and 20,000, fine arts and other subjects. This structure has been modified to some extent by recent trends; while the total number of graduates rose substantially between 1957 and 1964, there has been a much slower increase in the training of professionals in law, and a proportionally greater one in the number studying agriculture and related subjects, architecture, the natural sciences, the social sciences and education; the number graduating from the faculties of engineering and medicine has remained about the same.

The analysis of these trends and of the structure of the total professional strength is unquestionably essential for the purpose of educational planning, and at the same time useful in evaluating the direction of the changes needed in the light of certain significant ratios.

For example, the present strength of engineers and scientists represents a ratio of only 750 to 1 million inhabitants (0.75 per mil), whereas in some countries in other parts of the world much the same proportion graduates every year, and this is much lower than the annual graduation figures for the developed communities.

Furthermore, of the 180,000 included in the category of engineers and scientists, probably only about 90,000 are engineers proper, and perhaps more than half that number are engaged in construction activities. This latter group, added to the total number of architects (slightly over 20,000), determines a much higher ratio of senior professionals to other workers in construction than in industry, mining, basic services and other sectors. In agriculture, for example, the total of about 24,000 agricultural engineers gives a ratio of 0.7 for every 1,000 persons employed in the sector, possibly only one agricultural engineer for every 4,000 hectares under cultivation or every 19,000 hectares used for agriculture, without taking into account the high proportion of agricultural engineers who do not in fact work on the land. Lastly, the estimated 40,000-50,000 professionals with training in the natural sciences represent a ratio of 0.19 per thousand inhabitants, and an a appreciable proportion of these are employed as science teachers in secondary schools and universities.

In addition to the category comprising engineers and scientists, there is another group of high-level professionals with training in various fields: about 170,000 in the medical sciences (140,000 doctors and 30,000 dentists); some 210,000 in the economic and social sciences and in law (90,000 economists and sociologists and 120,000 lawyers); 130,000 in the humanities and education; and 20,000 in fine arts and other fields.

The structure of the intermediate-level group is harder to estimate than that of the university-trained group. Probably about 20 per cent (600,000) are technicians in agricultural and other specific production processes; not more than 1 to 2 per cent (some 30,000) are para-medical technicians and graduate nurses; over 40 per cent (about 900,000) are commercial technicians and office workers; 35 per cent (700,000) graduated from teacher-training schools; and 20,000 are technicians in various other specialities. This classification depends on how strictly the level of training is defined; thus, the above figures would be considerably higher if they included persons with a lower standard of training, or practitioners who might have attended courses at specific vocational schools but, in actual fact, are below the intermediate level.

Without losing sight of these reservations, it is interesting to examine the ratios between those trained at the university and intermediate levels, as deduced from the above estimates. These ratios are particularly significant in the technological and scientific fields, although from information currently available the figures appear to fluctuate widely in line with the criteria adopted in defining the intermediate level and in estimating the number of persons in that category. For example, on the basis of two alternative definitions—a very broad one that would include incomplete training and a narrow one restricted to technicians with advanced secondary training—the ratios of engineers and scientists to technicians with intermediate training would be 1:2 in the first case and 3.5:1 in the second. In sciences alone, where the number of laboratory personnel graduating from technical schools is small, the ratios range from 5:1 to 10:1.

However wide those margins may be, it seems reasonable to conclude from the above ratios that intermediate technical personnel are in even shorter supply than university-trained professionals, and, besides its direct effects, this situation invevitably results in a certain degree of under-utilization of the latter's capacity since they are required to perform functions that could be taken care of by more junior technicians. On the other hand, this is an important indicator of the state of the labour market. Many professionals who devote their time to activities which could perfectly well be performed by intermediate personnel—but which the corresponding professional associations have often succeeded in legally reserving for those professionals—probably find in these activities a labour market which they would otherwise have lacked.

A similar situation arises in the medical professions. In addition to a ratio of only one medical practitioner for an average of 1,700 inhabitants, there is an even greater shortage of well-trained intermediate personnel. The ratio of doctors to graduate nurses and para-medical technicians is probably no more than 1 : 0.25, excluding nurses with practical training only —which is sometimes supplemented by training programmes outside the formal education system—who in fact constitute a semi-technical category or rather belong to the services category in the public health sector.

There are, of course, a great many more technicians—both in absolute terms and in proportion to the number of professionals with university training—in the economic and social sciences sector, which at these intermediate levels covers various types of economic techniques applicable to commerce, office work, accounting and financial services. This is partly attributable to the extensive complex of commercial schools and specialized courses. It is estimated that upt to 1965 commercial schools and vocational training courses at the appropriate level in Latin America helped to train about 1.5 million accountants, secretaries and typists, librarians and registry clerks. Probably not more than 60 per cent of this number continues to form part of the economically active population, in view of the early retirement of a high proportion of female workers. Thus, the ratio between university-trained professionals and intermediate-level technicians probably ranges between 1:5 and 1:10, according to the stringency of the criteria for classifying the latter.

As regards professionals in the field of law, there is no question of an intermediate level, at any rate for the present. But in the humanities and education the two concepts have tended to merge. In addition to the estimated 130,000 graduates, at least a further 90,000 who failed to graduate but work in educational or other services would have to be considered. The 700,000 primary teachers who attended teacher-training schools should also be taken into account in this sector, even though their classification as intermediate personnel is not quite in keeping with the sense in which it is applied to other professions.

4. PRESENT SUPPLY OF THE EDUCATIONAL SYSTEM

The hypothetical characteristics of the educational profile of the economically active population as outlined above derive from the lines along which the educational system has evolved through the years. Since one of the purposes in formulating these hypotheses is to anticipate the skilled manpower needs that are likely to emerge by 1980, it would be useful to supplement them by the systematization of data on the present capacity of the system, in order to gain some idea of the scale on which the various sectors and levels would have to be expanded. To that end, the formal school system and the training facilities provided outside it in the form of non-formal construction will be considered separately. Some illustrative data will be added regarding the migration of skilled personnel, even though the numbers involved are not very large.

(a) *The formal education system*

Primary education. In 1965 an estimated total of 2 million pupils completed their primary education in Latin America. The last few years have marked a cumulative annual rate of increase of about 8 per cent in the number of school-leavers as the result of a relatively rapid increase in enrolments (about 5 per cent annually) and an appreciable rise in the primary system retention rate, although it is still very low for the region as a whole. Compared with a little over 2 million school-leavers, total enrolment in all primary education courses numbers some 33 million persons.

Secondary education. This level includes general secondary education, professional and vocational training (technical), and teacher training. The lack of reliable information on the number of persons completing their studies in each sector is evidence of the delay in systematizing the reporting of statistics on these questions.

It is roughly estimated that in 1965 nearly 370,000 pupils completed the general secondary course in the whole of Latin America, and that a total of some 3.3 million were enrolled in the various secondary grades. About half of these school-leavers entered the university, while the other half were immediately incorporated in the labour force or joined the ranks of the economically inactive population not covered by the school system. It should also be noted that the number of persons finishing the general secondary course doubled between 1957 and 1965, and this represents a considerable annual rate of growth.

The total number of students enrolled in vocational training schools is probably in the neighbourhood of 1.3 million, and the number completing their studies about 140,000 annually. Approximately 100,000 of these have attended commercial courses, some 36,000 have received technical training for industrial occupations[2] and barely 4,000 have studied agriculture.

As regards teacher-training schools, it is estimated that a total of 560,000 students were enrolled and about 50,000 graduated in 1965. As in other sectors of secondary education, teacher-training schools nearly doubled their enrolment figures from 1957 to 1965: but even so, about 40 per cent of the primary teachers have no diplomas.

To sum up, at the present time approximately 560,000 persons a year complete their secondary education, two-thirds in general secondary schools, one-fourth in vocational or technical training establishments and slightly less than 10 per cent in teacher-training schools.

University training. An estimated 71,000 students graduated from Latin American universities in 1965, the rate of increase in the last few years being 8 to 9 per cent annually.

About 15,000 studied education and the humanities; nearly 3,000, fine arts and architecture; some 9,500, law; almost as many, the economic and social sciences; slightly under 4,000, natural sciences; about 8,000, engineering; over 20,000, medicine and related fields; and slightly more than 2,000, agricultural subjects.

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[2] This category also includes persons who are trained for cottage or small-scale artisan-type industry rather than for factory industry. Unfortunately, it is impossible to distinguish between the two groups which make up the total.

These and other data on the formal school system are well known. Suffice it, therefore, to record these general figures as a basis for the comments on future expansion needs set forth in other sections of the present study. Meanwhile, it would be useful to examine some information on education outside the formal school system, whose contribution to the training of skilled manpower is not always sufficiently stressed.

(b) *Non-formal instruction*

The training of university professionals, intermediate-level technicians (industrial technicians, accountants, agricultural experts, etc.) and primary and secondary teachers is obviously the prime responsibility of the formal education system. On the other hand, many institutions outside that system have a part to play in the vocational or professional training of urban and rural workers, business employees, government officials, and managerial and executive personnel.

In the industrialized countries, workers and intermediate-level personne are trained, in accordance with various procedures, mainly in the enterprise itself. In Latin America, many institutions are also playing an increasingly important part in manpower training at various levels and in different economic sectors; these include industrial, business and agricultural enterprises, banks, public services, the armed forces, trade unions, *entrepreneurs*' associations, cultural associations, productivity centres, certain private schools which by the very nature of the instruction they impart are outside the formal education system, and specialized professional or vocational training institutions.

The latter have developed in Latin America, at least on up-to-date lines, only since the Second World War, and have spread quickly in countries forced by their relatively rapid industrial development to utilize new facilities for training skilled manpower. Their original radius of action was fairly limited, extending later both vertically (to include supervisory personnel, foremen and production specialists as well as skilled and semi-skilled workers) and horizontally (to cover a wider range of technical skills in industry and other fields).

The institutionalization of professional training outside the education system at a higher level than for operatives is at a less advanced stage. In some degree, this function is performed by productivity centres, through the organization of seminars and courses for the managerial staff of enterprises and other levels of administrative personnel.

Varying contributions to these activities are made by the State, *entrepreneurs* and trade unions. For example, the specialized institutions are controlled mainly by the State in Argentina, Chile, Mexico and Uruguay, and by *entrepreneurs*' associations in Brazil and Peru, while a balance is struck between the two in Colombia and Venezuela. The trade unions form part of the governing council of SENA[3] (Colombia) and are represented on the council of SENATI[3] (Peru). The productivity centres are mainly under the jurisdiction of the State in Argentina and Chile, and of *entrepreneurs'* associations in most of the other Latin American countries. In any case, they generally enjoy considerable administrative autonomy and operate very flexibly in regard to programmes and types of training.

In short, non-formal training is taken care of by a wide range of institutions differing in origin and aims, and particularly in the types of training they have to offer. Table 8 presents a more systematic picture of professional and vocational training services, showing the kind of institution concerned, the main training methods used and the types of programmes undertaken. Table 9 contains specific information—date of establishment, economic sectors covered, organization, financing and programmes—on the main specialized training services existing outside the formal education system in Latin America.

Unfortunately, there are no comparable data available to measure the scale of this type of training. At a conservative estimate, about 250,000 workers could be trained under present conditions through either intensive courses or relatively long courses at the specialized institutions alone. In all probability, several times that number receive some type of training in the enterprises and services in which they are employed, though the procedures and methods may vary widely.

At any rate, these are large enough figures in absolute terms to make it quite clear that services of this kind are helping significantly to meet Latin America's development needs in terms of human resources training. It seems undesirable, therefore, that so slight a link should persist between these training services and the formal education system, or that the former should continue to be disregarded in the formulation of educational policy and plans.

(c) *Migration of skilled personnel*

In order to evaluate the relationship between the total number of people trained both within and without the educational system and the number needed for the purposes of economic development, the extent to which that number is increased or reduced by the migration of skilled personnel should be taken into account. Although such shifts are generally on a minor scale, they may have a significant effect not so much on the total strength of the labour force as on particular specialities or sectors.

Latin America records a simultaneous inflow and outflow of skilled personnel, in addition to migratory movements between one country of the region and another, for which there are few figures available.

Particularly in recent years, international technical co-operation programmes have provided a medium for reinforcing the region's human resources by highly skilled foreign technicians and experts. But, as their contribution is both temporary and suitable for only the very highest levels

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[3] For full names, see table 9.

Table 8

LATIN AMERICA: MAIN PROFESSIONAL AND VOCATIONAL TRAINING SERVICES

Organizations	*Form of training*	*Programmes*
Production and services enterprises	Unorganized training Tendency of big concerns in certain branches (metallurgy,metal-transforming, banking, etc.) to organise staff training	Short courses of instruction for new workers, agricultural workers, employees and supervisors Promotion of these groups Instruction in new techniques Change of occupation
Public services (including the armed forces)	Unorganized training Small-scale training services and occasional courses	Briefing courses for new officials Promotion of officials Training in new fields of knowledge
Professional and vocational training services: [a] CONET (Argentina), SENAI and SENAC (Brazil), SCT (Chile), SENA (Colombia), SENATI (Peru), Universidad del Trabajo (Uruguay) and INCE (Venezuela)	Apprenticeship Training and advanced courses for adult workers and employees Advanced training for supervisors (TWI and other programmes) Training and advanced studies for technical and administrative staff In-service training in enterprises	Apprenticeship (4-36 months) Evening, night and week-end basic and advanced training (10-700 hours) Seminars for supervisors (2-200 hours) Technical and administrative courses (1-3 years) Aid to enterprises in organizing training Training and advanced courses for teaching personnel Correspondence courses (12-36 months)
State professional and vocational training schools (Ministry of Education, universities and others)	Training of urban and rural workers and of employees Technical training Training and advanced courses for workers and employees	Training courses for urban and rural workers and for employees (2-5 years) Technical courses (2-4 years) Evening courses for training and upgrading of workers and employees (over 12 months) Courses for teachers (2-4 years)
Private professional and vocational training schools (Salesian and other religious and lay organizations and universities)	Training of urban and rural workers and of employees Training and advanced courses for workers and employees	Training courses for urban and rural workers and for employees (2-5 years) Evening, night and week-end courses for workers and employees (12-36 months)
Public and private institutes for administration and management	Advanced training for supervisors (TWI) Advanced training for managerial and administrative staff	Courses for supervisors (TWI and others) (20-150 hours) Courses and seminars for managerial and administrative staff (4-50 hours)
Correspondence courses at home and abroad	Technical training (mainly in electronics, repair work and industrial design)	Technical courses (1-3 years)

SOURCE: Latin American Institute for Economic and Social Planning.

[a] For an explanation of the abbreviations, see table 9.

Table 9

LATIN AMERICA: SOME SPECIALIZED TRAINING SERVICES

Services	*Country*	*Year of establishment*	*Sector using services*	*Organization*	*Financing*	*Main programmes*
SENA (Servicio Nacional de Aprendizaje)	Colombia	1957	Industry, commerce, agriculture, mining, transport, services, construction	National Council (bipartite) National Department (appointed by the Government) Planning Commission Sectional Councils Sectional Departments (appointed by the National Department)	Decentralized public enterprises and services 20 workers 100,000 pesos 1 per cent of wages paid	Apprenticeship for minors Training for adult workers In-service training in enterprises
SENAC (Serviço Nacional de Aprendizagem Comercial)	Brazil	1946	Commerce, banking, services	National Council (bipartite) National Department (appointed by the National Council) Regional Councils Regional Departments (appointed by the National Council)	Commercial concerns 1 per cent of wages paid, on the basis of social security contributions	Secondary commercial training. Training of employees

SENAI (Serviço Nacional de Aprendizagem Industrial)	Brazil	1942	Industry, mining, transport, construction	National Council (bipartite) National Department (appointed by the National Council) Regional Councils Regional Departments (appointed by the National Council)	Industrial concerns 1 per cent of wages paid, on the basis of social security contributions	Apprenticeship of minors Training of workers In-service training in enterprises
SENATI (Servicio Nacional de Aprendizaje y Trabajo Industrial) ...	Peru	1961	Manufacturing	National Council (bipartite) National Department (appointed by the National Council) Regional Councils Regional Departments (appointed by the National Council)	Manufacturing industries with more than 15 workers, 1 per cent of wage paid, up to 6,000 soles	Not yet in regular operation
SCT (Servicio de Cooperación Técnica)	Chile	1960	Industry, mining, agriculture, transport, services, commerce, banking, construction	National Department (bipartite) National Director (appointed by the Department)	Contributions from CORFO and payments for services rendered by enterprises	Training of workers and supervisors In-service training in enterprises Training of workers

Table 9 *(continued)*

LATIN AMERICA: SOME SPECIALIZED TRAINING SERVICES *(continued)*

Services	*Country*	*Year of establishment*	*Sector using services*	*Organization*	*Financing*	*Main programmes*
INCE (Instituto de Cooperación Educativa)...	Venezuela	1959	Industry, mining, agriculture, transport, services, commerce, banking, construction	National Administrative Council (tripartite) Executive Committee (appointed by the Government)	Enterprises in all economic sectors, 1 per cent of wages paid, 0.50 per cent of annual profits paid to workers, 20 per cent of above totals from the Government	In-service training in enterprises Training of workers Apprenticeship of minors
CONET (Consejo Nacional de Educación Técnica)	Argentina		Industry, agriculture, commerce, banking, transport, services, mining, construction	National Council (bipartite) (appointed by the Government)	Public funds, 1 per cent of wages paid by enterprises (apprenticeship tax)	Secondary industrial, commercial and agricultural training Training of workers Apprenticeship of minors
UT (Universidad del Trabajo)	Uruguay		Industry, commerce, banking, agriculture, transport	Governing Council (appointed by the University)	University funds	Secondary industrial, commercial and agricultural training Training of workers

SOURCE: Latin American Institute for Economic and Social Planning.

of training, it is inevitably in the nature of guidance rather than of specific economic and social action. Moreover, under existing conditions, the influx of foreign personnel in connexion with private foreign investment,[4] particularly in the extractive industries and certain manufacturing activities, tends to be small. In addition, such personnel are usually sent on a temporary basis and the rate of turnover is high. Another kind of transfer consists in the selective immigration of skilled labour and specialized technical personnel on a permanent basis.

A typical example of the latter is the programme of the Inter-Governmental Committee for European Migration (ICEM). In accordance with this programme, approximately 1,000 skilled workers were placed in Latin American private industry between January 1964 and April 1966. Most of the requests received came from the textile industry (28 per cent), the metal-transforming and metallurgical sector (25 per cent) and the chemical industry (20 per cent).

Paradoxically, the outflow of highly specialized technicians and professionals to the more developed countries, particularly the United States, is even larger than the inflow of skilled personnel. United States statistics show that in 1941-50 there were some 43,000 immigrants from Latin America—excluding Mexico because of the peculiar characteristics of population shifts in border areas—and nearly 95,000 in 1951-58. The flow has increased substantially in recent years: 19,000 persons in 1959, 23,000 in 1960, 26,000 in 1961, 32,000 in 1962 and 35,000 in 1963.[5] Although these are over-all figures, professionals and skilled personnel presumably account for a fairly high proportion (especially if Mexico is excluded), and the figures for emigration to other countries—probably on a lesser scale —would have to be added.

A more detailed examination of the characteristics of that emigration in the particular case of Argentina leads to the conclusion that over 5,000 professionals and technicians emigrated from that country to the United States between 1950 and 1964.[6] Nearly 60 per cent of this over-all figure consisted of engineers, doctors and teachers.

A total of 1,153 persons emigrated from Chile to the United States in 1963, slightly over a quarter being university graduates.[7]

The few studies that have been made in Latin America on the motives for emigration do not reach the same conclusions regarding the relative importance of the different factors and do not all use the same classifications.

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[4] Two United States surveys show that in 1956 there were about 22,000 nationals of that country employed in developing areas as the result of private United States investment, two thirds of whom were in the professional or business executive categories. The number rose to about 35,000 in 1965, of whom probably one third were United States citizens employed in Latin America.

[5] Data compiled by ICEM.

[6] See Enrique Oteiza, *La emigración de ingenieros dentro del contexto de las migraciones internacionales en la Argentina, un caso de "brain drain" latinoamericano* (Buenos Aires, Instituto Torcuato Di Tella).

[7] See *La emigración de recursos humanos de alto nivel y el caso de Chile* (Washington, Pan American Union, 1965).

The motives most frequently mentioned, however, are better pay, prospects for professional advancement, insufficient recognition of technical and scientific work in the country of origin, better opportunities for research, etc. To some extent, it could be said that these motives are all linked to the central idea that in Latin America the prospects for full realization of the professional role are only slight, at least in comparison with the country to which the professionals are emigrating.

Even without fuller information to define the scope of the problem, partial data suffice to show that the emigration of skilled manpower from Latin America is reaching sizable proportions in relation to existing levels of vocational training in the region. Hence, there is a pressing need for a more searching study of the underlying causes of such emigration and the measures that might be taken to reduce it, since if it continues unabated, it will represent not only a loss in terms of investment in training but also a waste of talent and technical skill that is needed for the development of the region.

5. THE CONCEPT OF "SHORTAGE" AND EMPLOYMENT AND EDUCATIONAL LEVELS

Among the greatest difficulties encountered in the planning of human resources are those relating to the real and potential demands of the economic system and the translation of those demands into educational needs. With regard to the first question, a distinction which is as obvious as it is frequently forgotten must always be borne in mind: it is one thing to establish future employment needs on the basis of an explicitly or implicitly accepted development model, and quite another to determine effective employment needs in a given economic system for the present and for the immediate future, even where the development process is under way, let alone where it is not.

Even limiting the discussion to the need for skilled personnel, the following examples reveal the difference between the two approaches and the importance they may assume in Latin America:

(*a*) Cases where the supply of skilled personnel is very short in relation to the minimum requirements of an industrial society, but excessive in relation to present demand. The examples most frequently cited are engineers, agronomists and veterinarians. In some countries doctors are also in the same position and are forced to emigrate because of the lack of real demand for their services in the present system of employment;

(*b*) Cases where the supply is quantitatively low in relation to present needs and to demand in a developed society, but qualitatively high and unrelated to real needs. Hence, many existing job opportunities are not taken up. In this situation are doctors who have been trained for a type of professional activity which entails the use of human and technical resources available only in much more developed economies. Consequently, many of them emigrate and real health needs are not met, even to the extent that the number of available professionals would seem to make possible;

(*c*) Cases where supply is short in terms of the minimum requirements of a developed society and even in terms of the present demands of the economy. However, those whose who have the necessary qualifications cannot find work in their particular field because they lack—or are thought to lack—the kind of training needed to meet effective demand, since their training has been exclusively, or almost exclusively, within the formal educational system and not outside it, where on-the-job training plays a fundamental role. This frequently occurs in the textile industry, where university-trained industrial chemists are replaced by foreign technicians who have no university training but who, besides whatever training they may have received in technical schools, have considerable experience of the job.

These examples and others which could be cited reveal that there is a shortage and a surplus at one and the same time, depending on the terms of reference used. These phenomena of shortage and surplus point, on the one hand, to the relative independence of the educational system vis-à-vis real demand and, on the other, to the fact that this independence has relatively narrow limits. There is little possibility of any considerable changes in the distribution of training by professions and by levels within the educational system, unless a real change in employment opportunities is accompanied by an appropriate change in the system of incentives. Thus, for example, there will be no increase in the number of nurses, or if there is it will soon come to an end, because of the lack of real job opportunities in the profession or because the existing jobs are badly paid or carry low social prestige.

The second question—the translation of potential demands upon the labour market into educational needs—raises difficulties which are not insuperable but which must be borne in mind and should be mentioned in this context. Leaving aside the purely methodological aspects, which are irrelevant to this discussion, it would seem that this translation is less complicated in the developed countries than in the developing. There is a closer relationship between education and employment in the developed countries, because a more practical view is taken of the educational system and because there is a greater correlation between educational and employment levels, owing to the fact that less importance is attached to ascribed roles.

It is difficult to take the developed countries as a model because, apart from the general reasons that can be put forward for not doing so, in the developed countries educational levels are being raised as a result of economic growth, and the educational profile more than meets the minimum requirements for launching or sustaining the development process, which is the most to which the Latin American countries can aspire, given the low level from which they are starting. Another reason is that, whereas in the developed countries the projection of education and employment trends calls for only minor adjustments, the developing countries—although methodologically they can make the same projections—are faced by the need to achieve a radical alteration in the trends themselves.

Finally, suitable training for filling an occupational role can be obtained in various ways, through different combinations of training within and without the formal educational system, with the result that each society would seem to be in a position to choose between different alternatives in order to achieve the same results. Present educational stock and comparative costs would be two of the factors most affecting this choice. Hence, human resources planning must be extremely flexible and allow some mechanisms to be supplemented or replaced by others.

These considerations may help towards a wider understanding of the meaning of the relative shortage of skilled manpower, even at the present level of development, indicated by the figures contained in the previous sections. It is not easy to express that shortage in terms of indexes, and the problem tends to be obscured by the replacement of certain professional categories by others requiring fewer skills, incomplete or partial training, or crash courses mainly given outside the formal educational system.

Some shortage in specific categories of skilled manpower is quite normal in any country, inasmuch as the reverse would imply the existence of reserves which, in turn, would mean the under-utilization of trained human resources. In the industrialized countries themselves, the structural adjustments deriving from the continuous technological and institutional changes produce occupational frictions and the need for equally constant adjustment at all levels of professional and vocational training. However, such adjustments are facilitated in those countries by the existence of appropriate machinery for anticipating skilled manpower needs, by the scope and efficiency of the educational facilities provided outside the formal school system and, above all, by the population's educational background. The situation is very different in the developing countries, where the shortage of skilled manpower is more widespread and there are not the same means for overcoming it promptly, apart from the fact that the problem is not always clearly defined.

In the developing countries, the shortage tends to be masked by the considerable extent to which highly skilled persons are replaced by others with far lower or frankly inadequate qualifications for the functions they are expected to perform; hence the difficulty of assessing the shortage in quantitative terms, inasmuch as the main deficiencies are of a qualitative nature. The professional degrees and employment categories themselves are usually ambiguously defined and far from standardized, a fact which leads to misinterpretation and limits the possibility of determining the real extent of the shortage to certain categories of irreplaceable personnel, clearly defined by their functions and the precise qualifications required. In brief, there are marked disparities between the optimum qualifications required and those of the manpower available.

It is no less difficult to gauge the effects of the shortage of skilled manpower on existing activities. The low productivity levels in the production of goods and the supply of basic services can be measured in quantitative terms, unlike the inefficiency or poor quality of other services. Although undoubtedly these are in part the effects of that shortage, it would be difficult to separate them from those of other causes without a very close analysis of the pertinent "production functions". Even so, it would not be going too far to claim that the shortage of skills, in both quantitative and qualitative terms, is the cause of huge losses in labour and capital productivity which probably amount to several times the cost of training the corresponding number of persons at the appropriate level.

To look at the problem from a different angle, the superimposition of widely different technical strata which is typical of Latin America's economic development—more especially in industry but in other sectors as well—is doubtless another result of the shortage of skilled labour. Although the shortage can be combated by concentrating the most highly qualified personnel in a few activities or enterprises, the whole matter assumes a different aspect if the aim is to obtain more widespread increases in productivity and efficiency.

The problem is likely to become even greater in future. In the past the difficulty has in some measure been obviated by the surprising adaptability and capacity for improvisation of operatives, executives and technicians. This is possible at the stage when the predominant activities are the production of current consumer goods, raw and intermediate construction materials and, in general, types of manufacture not requiring a large proportion of highly skilled manpower. But it will be very difficult to make further headway without a large-scale training campaign if the activities to be initiated or expanded are specialized and technically more complex. Suffice it to cite an example which is of particular importance for planning purposes, namely, the problems involved in the study and preparation of new projects for the development of various economic sectors that require the intensive use of large numbers of highly skilled personnel in a wide range of professions and specialities. Their replacement by less well-qualified personnel is very difficult and entails the risk of incurring the huge social costs that follow upon wrong decisions in this connexion, while the services of foreign consultants and other forms of external technical assistance cannot be engaged on the scale required.

Considerations of this kind will be borne in mind in the section dealing with certain hypothetical projections of skilled manpower needs in 1980 and the improvements that can reasonably be expected in the educational profile of the economically active population in Latin America.

B. Hypothetical projections to 1980

The estimates and hypotheses made in the previous section can be taken as the basis for some useful conclusions regarding the particular lines that should be emphasized in Latin America's educational planning. They are, however, subject to two types of reservations which should be kept in mind.

The first derives from the very nature of those hypotheses, whose purely illustrative purposes justify their somewhat too general application to Latin America as a whole, but which nevertheless prove extremely tenuous if related to particular situations in the various countries. It is well known that the differences between the Latin American countries in basic aspects of their economic and social development and in the progress made by education itself are too great for a regional "diagnosis" or for the definition of an educational policy and certain educational goals at the Latin American level to have sufficient practical value. In a word, whether it is the broad aims of education or the more specific objectives of training in particular technical skills that are in question, the fact remains that the differences in *per capita* income levels, the urban-rural distribution of the population, the economic structure, the stage of industrial development reached and other equally important factors determine educational requirements that vary from one country to another and call for different human and financial potentialities to satisfy them in full measure.

The second reservation derives from the fact that the estimates and hypotheses thus far presented relate to the present situation, whereas educational planning should not only eliminate existing disequilibria but anticipate future needs. This condition is at once more important and relatively easier for the developing than for the industrialized countries. It is more important because, as developing economies, their growth involves a speedier structural change and therefore faster absorption of technical progress and more rapid changes in terms of the human resources needed to assimilate that progress. It is relatively easier because it is largely a question of absorbing technical progress that is already available in other economies, and because the very experience gained from the past evolution of these economies generally speaking, makes it easier to foresee the direction and scope of the structural changes that are to be expected in the growth of economies at a less advanced stage of development. However, this line of reasoning should not be pursued too far, since many features of Latin America's development are very different from those shown in another historical context by the now industrialized economies. These differences are particularly noticeable in regard to education, which plays a vital role in the whole question of the training of human resources.

An analysis of the long-term development of the Latin American economies suggests that the combination of a high rate of population growth with a low over-all rate of development, in addition to various institutional factors, has gradually distorted the structure of employment. Although unemployment has not reached a very high level, widespread under-employment has become a serious matter, to the point where it is estimated that in many of the Latin American countries overt or disguised under-employment affects about 20 or even 30 per cent of the whole labour force. Different factors have combined to influence the proportions of agricultural and non-agricultural employment and the scale of migration from rural to urban areas, making them incompatible with the increases in agricultural productivity and the absorption capacity of urban activities, thereby introducing new elements of distortion into the structure of employment. Thus, the long-standing under-employment in rural areas is being supplemented by a considerable amount of under-employment in the urban sector, particularly in certain services.

This is not the place to define the terms of that problem. It is simply mentioned in passing, so as to reaffirm the need for development plans to include a clearly-defined employment policy, which will provide an essential frame of reference for planning the training and development of human resources and, consequently, for educational planning. On the other hand, it seems useful to supplement the estimates and assumptions made concerning the present situation by similar illustrative examples which will help to clarify the effects of certain foreseeable changes, by means of hypothetical projections of the main variables to 1980.

1. GROWTH AND STRUCTURAL CHANGES IN RESPECT OF POPULATION, THE PRODUCT AND EMPLOYMENT

From the probable evolution of the principal population ratios, it may be estimated that the population of the twenty Latin American countries will be about 364 million in 1980. No major changes are expected in the population structure by age; thus, the total figure would be split up as follows: 152 million in the youngest age group, a little over 197 million aged 15-64 and slightly more than 14 million over 64 years of age. Of the youngest age group, the school-age population (7-14 years) may number about 72 million compared with 40 million in 1960.

In view of the changes in the age structure and other factors with conflicting effects, the rate of participation in the labour force may be expected to increase slightly; thus, there would be about 120 million economically active persons in 1980, which is 45 million more than the estimated figure for 1965, i.e., an average absorption of 3 million persons annually during these fifteen years. To look at the question from another angle, the rural population would approach 150 million, while the urban population would exceed 215 million, or a little over 59 per cent of the total.

It is far more difficult to forecast the evolution of other factors which complete the demographic picture in order to evaluate the magnitude of the efforts that must be made to educate and train people. Some estimates are given, however, which might serve at least for purposes of illustration.

In 1965, the average annual productivity per employed person in Latin America as a whole was about 1,150 dollars. On the assumption that productivity will increase at an annual average rate of 2.5 per cent over these fifteen years—a higher rate than before, but modest enough as a future development target—by 1980 it would be about 1,700 dollars per employed person. This figure, in turn, taken together with the projected total employment figure of 120 million persons, would result in an aggregate domestic product of approximately 200,000 million dollars for Latin America, or more than double the absolute figure recorded in 1965 (about 89,000 million dollars).

Even with an annual *per capita* increase of less than 3 per cent in the product, the over-all increment in the fifteen years considered would be fairly substantial, and in any case large enough to expect that there would also be significant changes in its sectoral composition. These changes are not, of course, dependent on its quantitative growth alone, but also on certain essential factors of development policy. Without going into the question in too much detail, it should at least be taken for granted that widespread agrarian reform, more equitable income distribution and closer economic links among the countries of the region will play a greater or lesser part in future development. In those circumstances, there would have to be an agricultural growth rate averaging at least 1.5 per cent *per capita* annually, an increase in manufacturing industry equal to at least an elasticity of 1.3 with respect to the growth of the total product, and a comparable rate for basic services, probably rather slower for transport and faster for power supplies and other ancillary services.

These and other similar criteria lead to the projection of the level and structure of the product presented in table 10. This projection is extended to an estimate of the employment structure that would be consistent with the foreseeable growth of the economically active population and certain assumptions regarding productivity changes in each economic sector. These changes would exhibit clearly distinctive features. For example, in all probability, the rapid growth of manufacturing industry, whose product would almost treble by 1980, at an average annual rate of nearly 7.5 per cent, would at the same time involve the incorporation of new highly productive and technically complex activities, the modernization of traditional branches of industry and the transfer of resources on an increasing scale from artisan-type and small-scale industry to manufacturing industry proper. As a result, the average productivity of the population employed in the manufacturing sector as a whole could hardly be assumed to increase at a rate of less than 4 per cent annually, a rate which, in its turn, would represent a small increment in this sector's share of total employment.

Table 10

LATIN AMERICA: A HYPOTHETICAL PROJECTION OF THE PRODUCT AND EMPLOYMENT TO 1980[a]

	Gross product (millions of dollars)		*Employment (thousands of persons)*		*Sectoral composition of the product (percentage)*		*Employment structure (percentage)*	
	1965	*1980*	*1965*	*1980*	*1965*	*1980*	*1965*	*1980*
Agriculture and fishing .	19,348	36,000	35,499	49,300	21.8	18.0	46.2	41.1
Mining and quarrying .	4,279	9,000	743	1,000	4.8	4.5	1.0	0.8
Manufacturing	20,031	58,000	12,048	20,000	22.6	29.0	15.7	16.7
Construction	2,869	7,000	3,706	7,200	3.3	3.5	4.8	6.0
Basic services	6,731	21,000	4,185	8,500	7.6	10.5	5.4	7.1
Other services	35,389	69,000	20,705	34,000	39.9	34.5	26.9	28.3
TOTAL	88,647	200,000	76,886	120,000	100.0	100.0	100.0	100.0

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

The projections for the agricultural sector are based on the assumption that agrarian reform policy would intensify efforts to step up yield per unit of area, while the increase in productivity per employed person (about 2 per cent annually) would be more moderate; even so, there would be a significant reduction in the proportion of total employment accounted for by the agricultural sector, which, in its turn, would presuppose a continuation of the relatively high rate of migration from the country to the town. As regards the extractive industries, the fact that they are concerned mainly with exports will probably continue to promote a steady and comparatively rapid increase in productivity, and therefore limit their capacity for absorbing additional manpower. On the basis of these considerations it is assumed that if the projections of the product are to be consistent with the over-all growth of the labour force, the productivity increases in the remaining activities would have to be very modest, e.g., about 1.5 per cent annually in construction and basic services, and still less in all other services taken as a whole.

In brief, those general assumptions would come to constitute the other facets of an employment policy defined in its broadest sense, and could naturally be based on different criteria. The only object of this illustration is to point to the need for the explicit formulation of a frame of reference that would bring into focus the relationships between over-all growth aims and labour absorption needs, on the one hand, and, on the other, the resulting increase in productivity and assimilation of techniques; and to throw light on foreseeable structural changes, their effects on the sectoral distribution of new employment opportunities and the corresponding productivity levels.

2. HUMAN RESOURCES AND THE PROFESSIONAL AND VOCATIONAL STRUCTURE

It is concluded from the foregoing considerations that the changes to be expected in the professional structure of the employed population undoubtedly stem from two types of factors: first, the variation brought about by the development process itself in the relative share of the different economic sectors, in each of which employment has a different professional structure; and, secondly, the fact that modernization and increased productivity give rise in each sector to greater needs in terms of professional skill.

The first factor is illustrated by the hypothetical situations presented as representative of Latin America as a whole, the professional structures that were estimated for each sector in 1965 being applied to the projected sectoral employment up to 1980 figures. It will be noted that, even if the level of skill for each sector remained the same, there would be a change in the professional structure of the labour force as a whole, because of the differences in the extent to which the various sectors would necessarily expand, those with the fastest growth rates generally requiring the highest levels of skill. To this should be added the results of the absorption of technical progress in each sector on a larger scale and at varying speeds, according to the expected or assumed rate of increase in productivity.

The combination of those two factors may lead to sharp variations over a relatively long period, as shown by the figures in table 11, which summarize the results of a hypothetical projection of the vocational structure of the employed population to 1980 for Latin America as a whole. These figures take into account the projections of the product and employment referred to in the preceding section and some additional hypotheses regarding the repercussions of the assumed productivity increment for each sector in terms of the professional skills needed by each sector.

Table 11

LATIN AMERICA: A HYPOTHETICAL PROJECTION OF THE OCCUPATIONAL STRUCTURE OF THE LABOUR FORCE TO 1980[a]

(Thousands of persons)

	Total	*Professional and technical personnel*			*Administrative and managerial personnel*	*Employees and salesmen*	*Operative and artisan workers*				*Services personnel*
		Total	*Professional*	*Technical*			*Total*	*Skilled*	*Semiskilled*	*Unskilled*	
Agriculture and fishing	49,300	200	50	150	150	200	48,250	4,900	14,800	28,550	500
Mining and quarrying	1,000	60	30	30	15	70	825	120	350	355	30
Manufacturing	20,000	600	140	460	500	2,000	16,600	5,900	9,000	1,700	300
Construction	7,200	200	50	150	110	140	6,670	860	3,600	2,210	80
Basic services	8,500	320	70	250	210	1,530	6,100	680	3,400	2,020	340
Other services	34,000	4,930	850	4,080	2,720	10,880	2,040	340	510	1,190	13,430
TOTAL	120,000	6,310	1,190	5,120	3,705	14,820	80,485	12,800	31,660	36,025	14,680

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[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

If these projections are compared with the estimates set forth above in regard to the situation prevailing in 1965, the extent and nature of the anticipated changes can be appreciated in detail. In general, the most significant changes relate to the considerable increase that would take place in the total number of professionals, the even greater increase in the number of sub-professionals or technicians and the higher level of skill in the category of operatives and artisan workers.

To consider only professionals with university degrees, the projections indicate that their number will have to increase by over 130 per cent between 1965 and 1980. Since the population will have expanded by only 55 per cent in that lapse of time, this would raise the ratio of university graduates in the professional category from the present coefficient of 3 per thousand to 4.5 per thousand in 1980.

Besides this over-all increase, the category concerned will no doubt also undergo a change in its internal structure, among the principal groups of professions. It might be postulated, for example, that it will be necessary to increase the proportion of graduates in natural sciences and engineering and, on a lesser scale, in the economic and social sciences; to maintain the proportion of graduates in the humanities, education, the fine arts and the medical sciences at approximately the same level; and to make a corresponding reduction in the proportion of law graduates.

As these considerations are purely illustrative, they do not justify making the projections detailed enough to refer to more specific professions, even though this would help to clarify the basis of the general postulates by showing that they are closely related to the structural changes and improvements in sectoral productivity mentioned above. At the same time, a more detailed analysis of this kind would provide criteria for estimating the changes that should be made in the respective proportions of professionals at the higher level and at the intermediate level (the latter are included in the general category of technicians, although this designation is not entirely suitable).

3. IMPROVEMENT AND CHANGES IN THE EDUCATIONAL PROFILE OF THE ECONOMICALLY ACTIVE POPULATION

Necessarily supplemented by a more detailed type of analysis, which will not be described here in order to avoid too lengthy a presentation of the hypotheses, this kind of projection of professional structure can be used as a basis for sounder projections of the educational profile of the economically active population which would be compatible with future development requirements. The problem thus touches upon the more direct concerns of educational planning, inasmuch as it can be translated into a quantitative framework which would help to determine the scope and tenor of the training policy that should be adopted.

This additional step is illustrated by the projection of the educational profile of the active population to 1980, as set out in table 12. This represents far more than the mere arithmetical computation of the figures obtained from relating the projections of the future professional structure to present coefficients of "educational inputs" for each professional category.

Table 12

LATIN AMERICA: A HYPOTHETICAL PROJECTION OF THE EDUCATIONAL PROFILE OF THE LABOUR FORCE TO 1980[a]

(Thousands of persons)

	Total	*Profes-sional and technical personnel*	*Adminis-trative and managerial personnel*	*Employees and salesmen*	*Operatives and artisan workers*	*Services personnel*
University education (complete and incomplete)	*2,432*	*1,554*	*485*	*393*	—	—
Intermediate education	*25,476*	*4,144*	*2,250*	*6,643*	*11,251*	*1,188*
Secondary general	*15,419*	*1,311*	*1,715*	*5,418*	*5,787*	*1,188*
Complete	4,486	632	1,135	3,416	1,445	272
Incomplete	10,933	679	580	2,002	4,342	916
Technical	*8,235*	*1,011*	*535*	*1,225*	*5,464*	—
Teacher training	1,822	1,822	—	—	—	—
Primary education	*92,092*	*612*	*970*	*7,784*	*69,234*	*13,492*
More than three years	57,517	454	695	5,665	41,830	8,873
Less than three years or none at all	34,585	158	275	2,119	27,414	4,619
TOTAL	120,000	6,310	3,705	14,820	80,485	14,680

[a] The figures in this table are estimates with widely varying degrees of approximation, and are given solely for illustrative purposes.

For the purposes of this projection, it would seem desirable to take into account at least two considerations. In the first place, the educational profile that will be needed in future is not dependent only upon the changes that are expected in the professional structure as a result of the quantitative expansion of the various categories. In earlier sections we have already had occasion to emphasize some glaring anomalies in the existing situation, i.e., the performance of functions by persons without proper training. In other words, the "internal" educational profile of certain categories taken separately displays marked shortcomings in the scope and nature of the corresponding schooling and training.

The second consideration relates mainly to the inevitably rigid nature of certain factors that will be encountered in attempting to improve the educational profile of the employed population. In practice, a considerable proportion—probably about 30 per cent—of the active population in 1980 will consist of persons already integrated in the labour force in 1965, i.e., survivors of the present employed population whose educational profile is already determined and could be modified in some measure only through non-formal training. Even the educational profile of the new influx into the labour force in the near future is also largely pre-determined by existing educational conditions. Therefore, the new training activities undertaken from now on will influence the educational profile of no more than part of the economically active population that will be available in 1980. This shows how important it is for educational planning to be based on forecasts of future requirements considered over a fairly long space of time.

These considerations, in their turn, give rise to certain conclusions which deserve to be emphasized. In the first place, they explain why the projection in table 12 should continue to show a significant proportion of persons with little schooling in the categories of professionals, technicians, and administative and managerial staff, a fact which is seemingly inconsistent with the aim of bringing professional skills into line with the functions to be carried out in the economic system. Moreover, a comparison of the projections of the desirable or necessary educational profile in 1980 with the present situation fails to reflect the true magnitude of the effort that must be made by the educational system, since it must be measured in relation to the new contingents joining the active population, whose level of education will have to be much higher to offset the inadequacy of the survivors of the existing labour force. In table 13 separate figures have been given for the educational profile of the new contingents that will be joining the ranks of the active population before 1980.

Table 13

LATIN AMERICA: THE ESTIMATED EDUCATIONAL PROFILE OF THE LABOUR FORCE IN 1965 AND PROJECTED TO 1980[a]

(Thousands of persons)

	Total, 1965	*Total, 1980*	*Survivors from 1965 in 1980*	*New occupations*
University education (complete and incomplete)	*1,060*	*2,432*	*636*	*1,796*
Intermediate education	*8,730*	*25,476*	*5,232*	*20,244*
Secondary general	*6,240*	*15,419*	*3,742*	*11,677*
Complete	1,490	4,486	893	3,593
Incomplete	4,750	10,933	2,849	8,084
Technical	*1,770*	*8,235*	*1,059*	*7,176*
Teacher training	720	1,822	431	1,391
Primary education	*67,096*	*92,092*	*40,263*	*51,829*
More than three years	29,700	57,517	17,815	39,702
Less than three years or none at all	37,396	34,575	22,448	12,127
TOTAL	76,886	120,000	46,131	73,869

SOURCES: tables 5 and 12.

[a] The figures in this table are estimates with widely varying degrees of approximation and are given solely for illustrative purposes.

4. EXPANSION REQUIREMENTS IN RESPECT OF EDUCATION AND PROFESSIONAL AND VOCATIONAL TRAINING

In actual fact it is the last considerations discussed that shed most light on the magnitude of the expansion requirements in respect of education and vocational training by comparing the training needs for new employment with the assumed levels of "supply" of the educational system. It would be useful, therefore, to dwell briefly on the meaning of these hypothetical figures, deduced from the series of assumptions and criteria assembled in earlier sections.

The need to provide university training for nearly 1.8 million persons during the period up to 1980 means that the Latin American universities will have to train during that period nearly twice the number of university graduates now included in the economically active population. From a different standpoint an average of about 120,000 persons would have to graduate from the Latin American universities annually in comparison with the present figure of approximately 70,000; this represents an increment of 70 per cent.

There would have to be a relatively larger increase in secondary education as a whole, besides important changes in orientation. In 1980, the number of persons leaving general secondary schools after completing the full course of study who do not go on to the university would total nearly 3.6 million, which, together with a like number entering university, would bring the average number of persons graduating annually from general secondary schools up to about 500,000. This figure is in contrast to the present total of 370,000 persons and represents an expansion of 35 per cent at the secondary level. Although this does not seem to be very large, it should be borne in mind that it involves a drastic reorientation of secondary education in favour of technical training, and a substantial increase in the number of pupils that can be accepted for the first cycle of basic secondary education. At the same time, the fact that the increase in the number of graduates from general secondary schools is slower than the increase in the number of university graduates augurs a considerable improvement in university retention rates.

The disequilibrium is most acute in relation to technical training. On the basis of the projections set forth above, it is estimated that in these fifteen years or so nearly 7.2 million persons will be given a technical education at the secondary level, i.e., an annual average of about 480,000 as against the present figure of only 140,000. The effort required in this field means that the existing capacity of the system would have to be more than tripled. This conclusion might appear utterly impracticable if interpreted literally, but it is actually subject to a number of reservations that ought to be made clear.

The first relates to the fact that the 1965 figures for the employed population with technical training—which have served as a point of departure—include not only persons who have completed a technical course, but also a considerable proportion with incomplete training. Although it would be desirable for the 1980 forecasts to relate to graduates as such, since that would mean a real improvement in the educational profile of the population at large, the scale of growth required will mean that, in practice, large numbers of people with incomplete technical training will still be joining the labour force.

It is generally agreed that technical training needs to be expanded, but there is little idea of what its aims and content should be. Although it is impossible to evolve criteria that are universally applicable, as each country has different reasons for expanding its educational system, and differing traditions as regards such matters as skilled manpower, some generally valid distinctions are coming to be accepted. One is the distinction between levels, that is, between intermediate and higher technical training. Another is the distinction between the media that provide technical training, which may be the formal educational system, facilities made available outside it, or a combination of both. Lastly, there is the problem of how to dovetail the different levels of training.

There seems to be a unanimous consensus that the minimum prerequisite for development is universal general education, which should include the whole primary cycle and even the first intermediate cycle, depending on the criteria that govern the expansion of the educational system. Whatever the reason for which they were originally established, all the parallel systems, that is, those which recognize the existence of two or more types of training above a certain level—some of which may be terminal and others terminal or preparatory—have to face the same problem, namely, the very great difference in the standing of terminal and non-terminal training. The former, which leads to manual labour, has little prestige while academic training which leads or may lead to the university enjoys pride of place. This reflects a very common phenomenon, which is that the prestige of an educational system is in direct ratio to that of the occupations to which it is the gateway. The scale of social prestige, in its turn, depends very little on the system of education and a great deal on the prevailing social values and their relation to employment opportunities.

In this respect, the best that the educational system can do is not to accentuate these distinctions, and to give everyone with intermediate training an opportunity of going on to a higher level provided that certain conditions are fulfilled. If technical training is not necessarily terminal its social prestige will be enhanced, even if, in practice, it turns out to be a blank wall for many more people than academic intermediate training. Hence, technical intermediate training that does not form part of general intermediate education should be an avenue to the university and the technical institute. Everything points to the need for many more institutes of this kind at the higher level in Latin America, but the manner and tempo of their development will depend on how flexible the present university system is and whether it is more expensive to provide more of that kind of training or to construct entirely new institutions of higher education.

Another fundamental question is that of training within the formal educational system *versus* training outside it. Although there has been a reaction in the last few years, educational policy in Latin America tends to lay more stress on the former and to regard all other types, including on-the-job training, as of secondary importance only. It should be remembered that nearly all the industrial labour force obtains its training on the job. The few technical graduates that there are have great difficulty in finding employment, and when they do it is usually in the services sector. Even if they do succeed in getting jobs in industry, they are unlikely to be given greater responsibilities or a higher rate of pay than the men who have been taken on as trainees. Broadly speaking, this implies (*a*) that persons graduating from the formal educational system are not trained to meet the actual requirements of industry, and (*b*) that persons trained by other means probably have little flexibility or power of adaptation to changing circumstances.

Moreover, intermediate vocational training is so much more expensive than general secondary education that great caution should be observed in setting up new vocational institutes at the intermediate level. It would seem more reasonable to provide more and longer general education courses for all students, while making every effort to provide opportunities for parallel training outside the scope of the formal system from the end of the first intermediate cycle upwards. A scheme of this kind would be both flexible and readily adaptable. In fact, it would make for swifter and more practical adjustment to current labour market conditions than the type of training afforded by the formal system of education. At the same time, it would provide a general education, and this has been proved time and again to be immensely helpful in increasing the labour force's power of adaptation to technological change and working requirements.

The crux of the problem thus seems to be the training of factory workers. If Latin America is to develop modern industries that can compete with those in the developed countries, it will need a far better trained labour force, and it can obtain this only by combining the training provided within and without the formal educational system. In addition, less importance will undoubtedly have to be given to technical training of the artisan type than has been the case hitherto. Up to now the formal systems of training have tended to lay undue stress on artisan-type training, with the result that the training of the industrial labour force has been neglected and the artisans themselves are unprepared to meet the demands of future change. Non-formal training should not prevent the continuation of more formal courses of study. A highly flexible system of cycles could be set up at both the intermediate and higher levels to train the different grades of technicians required for development purposes, with ample facilities for night classes, correspondence courses, on-the-job training, etc. The need to complement the formal educational system should spring not from theoretical policy requirements in education but from real industrial demand for better qualified workers to match higher rates of pay and levels of responsibility.

Non-formal training should therefore be meshed more closely with the formal education system, and both should be fully integrated in educational and human resources planning. Whether the State alone should be responsible for the training provided outside the formal system or should share its responsibility with the entrepreneurial sector depends entirely on the conditions prevailing in each country. The main thing is that such training should be geared to future requirements, and that a highly flexible system should be set up with features that could be combined in different ways to offer manifold possibilities of continuing training, establishing it on a permanent basis and forging it into a highly effective tool for the promotion of social mobility.

The foregoing considerations also seem to apply to the methodology and subject-matter of education. In the last analysis, changes in curricula and study programmes, and the development of technical training, etc., will count for very little if the prevailing methods of teaching in Latin America continue to depend on memorizing and repetition, to the detriment of all initiative and creativity. It is more important to develop the ability to participate in a continuing process of training and education of all kinds than to acquire a small fund of knowledge which is subsequently forgotten or rapidly becomes out of date.

Moreover, in view of the need for a highly adaptable type of training which can respond to changes that are bound to take place in the occupational structure, and the fact that the kind of education given today is becoming increasingly meaningless, it is necessary to lay more stress on scientific and technical subjects in the first cycle of general secondary education, and to include more general subjects and more of the humanities in technical training The distinction between the two is losing its force in the formal educational system. What matters most to a person taking a technical course of study is not instruction in the use of a particular technique, of the kind given now, but the development of his ability to use every kind of technique, including those not yet discovered. In other words, the aim of training should be to create a technical climate. It has been found that the chances of developing this kind of climate depend primarily on the proportion of general subjects that are included in technical training. Again, from the standpoint of development, it is all-important for the person receiving a general education to participate in what Schelsky has called the process of pre-formation of life by science, and that he should rate science and technology at their value as instruments—in other words, that he should be imbued with the scientific spirit.

Together with the methodological changes that have been mentioned above, these are the prerequisites for the educational revolution that is needed in the developing countries. The distinctions between general and technical education are of far less importance, if indeed they still have any validity at all, than the contribution that both must make to full participation in the system of values and practical requirements of an industrial society.

These considerations imply that non-formal professional and vocational training will have functions and responsibilities that go far beyond those traditionally conceded to it, and will be recognized as a vitally important instrument for supplementing—at least during a period of transition and adjustment such as that lying ahead—the efforts made through the formal system. Naturally, a course of this kind can be followed only if the systems are properly integrated and co-ordinated under a single educational planning policy in the broadest sense of the term.

With respect to intermediate-level training the projections envisage the need to train within the next fifteen years nearly 1.4 million primary teachers, i.e., over 90,000 annually, as compared with the 70,000 now graduating every year.

As regards primary education, the magnitude of the task to be undertaken is reflected not so much in the projections of the educational profile of the active population as in the estimates of the age structure of the total population and the objectives established for meeting the requirements arising therefrom.

Lastly, the form given to the projections of the educational profile of the active population fails to bring out another future development need, namely, the level of skill of operatives and artisan workers. It has been made clear that of the 80 million persons who will come into that category in 1980 some 12.8 million should be skilled operatives and artisan workers, and nearly 32 million semi-skilled workers. If the former group is reduced by the 5 million or so who would receive technical training at the intermediate level, there would still be 7 million persons whose skills would have to be developed by professional and vocational training outside the radius of the formal educational system (see tables 11 and 12).

It would be out of place in a study of this kind to go further into the various repercussions that are likely to be produced by this set of projections. Besides providing certain general orders of magnitude that throw more light on the extent of the task to be undertaken, this study has been concerned with emphasizing the need to place the problem in the over-all context of development; to tackle it as a whole, reconciling the broad aims of education with the need to train human resources; and to relate it to educational activities in general, whether these are pursued through the formal system or through non-formal vocational training services. An attempt has also been made here to illustrate, through hypotheses relating to Latin America as a whole, certain general lines of approach that would appear to be suitable for dealing with the subject and that will, in the last analysis, have to be used to give the as yet scattered educational planning efforts a more practical form. This chapter has also suggested a number of reasons that make it imperative to adapt over-all plans to the probable levels of skill prevailing during the different stages of their application.

Chapter III

THE SOCIAL STRUCTURES AND EDUCATIONAL DEMAND

Education, whatever purposes may be formulated by the State and by educators, is sought by parents for their children either to confirm the status the family has already attained, or as an avenue towards higher status and better-paying occupations. Moreover, any educational system that is not very new and rudimentary has complex internal forces of momentum and inertia deriving from the interests of administrators and teachers at the various levels and in the many specialized areas of instruction; at the higher levels the aspirations of the students themselves (likely to be quite different from those of their families) press upon the system from another direction. When the public purposes for education encounter the heterogeneous pressures from within and without the educational system, the actual lines of evolution and the "output" of the system depend on what has been called an "aggregate intention" or "resultant".[1] The system cannot respond fully to any of the demands on it, but takes a shape determined by the relative strength of the pressures brought to bear upon it.

In a dynamic and mobile society, the aggregate demands upon education may correspond sufficiently to the overt objectives of human rights and human resources development for the system to function with reasonable efficiency. In a society deliberately "mobilized" for development, a strong Government may be able to impose its objectives with sufficient vigour and a sufficient degree of public concensus to subordinate other claims to them. In a nearly static traditional society the educational system can fill its role of confirming "ascribed" statuses without serious strain. More intractable problems are bound to arise in transitional or "conflict" societies in which the traditional order is widely considered to be no longer viable, but in which a generalized aspiration for development has not yet produced an effective national consensus concerning the prerequisites of development. In such circumstances the different objectives and demands upon the systems are likely to adulterate and frustrate one another. The expansion of the education systems depreciates the traditional rewards they could offer in terms of status and occupational guarantees, but their ability to stimulate social mobility and productivity hardly increases in proportion.

In relation to demandson the educational systems from the "consumers" of education, four strata in the national populations deserve particular attention: the traditional upper classes and the newer *élite* groups; the urban middle strata; the rural-agricultural lower strata; and the rapidly growing, geographically mobile, semi-urban strata that are commonly labelled "marginal" (although, as will be seen, this term can be inadequate or misleading). The second of these strata exerts a stronger pressure for the allocation of more resources to education than does any other element in the national societies, and influences the content of this education not only through its demands but also through the predominance of its members among teachers, administrators and planners. The two last groups—the rural-agricultural and semi-urban strata—have been recently caught up in the widening hunger for education, but the pressures they can exert are relatively weak and they are only beginning to acquire the capacity to formulate realistic demands for educational content adapted to the opportunities likely to be within the reach of their children.

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[1] Andrew Pearse, "The instrumentality of education systems", paper prepared for the Sixth World Congress of Sociology (Evian, France, 1966) and published in *The International Social Science Journal* (Paris, UNESCO), vol. XIX, No. 3 (1967), pp. 1313-1324.

1. THE ÉLITES

The traditional upper classes provided the educational models on which newer objectives and organizational forms have been superimposed. In more recent times, the influence of these upper classes seems to have been important mainly in a negative way, in their partial withdrawal or passivity in the face of the educational pressures of the middle strata. To these groups education did not present a "problem", as long as their children could be sent to private schools or abroad to study, and as long as professional titles were more important as a confirmation of their status than as a means of securing an income; more recently, however, insecurity of income from the land and increase in numbers have combined to force rising proportions of the youth from these classes into the competition for professional and white-collar employment. The creation of private universities in several countries seems to have responded to *élite* preference for withdrawing from the overcrowded and agitated atmosphere of the national universities, and the restrictive admission policies clung to by some of the traditional professional faculties of the national universities may respond to similar reasons. More generally, however, the traditional *élites* do not seem to have formulated objectives for the expanding of public education beyond the inculcation of the "fundamentalist" values described in chapter IV, or to have made any vigorous effort to retain control over the systems.

The newer industrial and commercial *élites*, particularly in the countries with relatively vigorous and diversified economic growth—identified in the Introduction as type II—have begun to meet their own needs for well-trained technicians by supporting private universities, technical schools, and training arrangements called "*servicios*" offering short specialized courses adapted to immediate occupational demands. This policy has sound practical justifications and also shortcomings that are discussed elsewhere, but the reliance on expedients outside the public educational system has been stimulated by the employers' distrust both of the standards of instruction and of the politicization of the existing universities and technical schools.[2]

One might seek in the initial dominance and later passivity of the *élite* groups in relation to public education a part of the answer to the question often asked, as to why the middle strata, after attaining considerable vigour and quantitative importance, have not been able to provide more coherent leadership. Educational policy has been affected by the "crisis of the traditional decision-making machinery" or "power vacuum" noted in several recent studies of Latin America, but at the same time it has contributed to the crisis.

2. EDUCATION OF THE URBAN MIDDLE STRATA

The "middle classes" of Latin America have been for some years a controversial topic, although empirical investigations of their characteristics remain regrettably few. As early as the nineteenth century, writers began to deplore the prevalence of two-class societies as incompatible with progress of the region toward democracy and prosperity. Later, the national societies were anxiously surveyed for signs of the emergence of middle classes. In one or two instances, international technical assistance was sought, for the identifying and fostering of middle classes. More recent studies began to point out that the stereotyped pictures of a region dominated by tiny traditional upper classes were no longer valid. The groups emerging in the middle might lack sufficient homogeneity and cohesiveness to justify the term "class", but it was evident that representatives of middle "strata" or "sectors" held the leading positions in several countries and were pressing towards political and economic dominance in others. Various statistical indicators showed that middle strata had grown roughly in correspondence with the degree of urbanization in the different countries. While the statistics were far from conclusive, they suggested that the share of the middle strata in national populations ranged from nearly half in a few of the most highly urbanized countries to less than a tenth in some of the small overwhelmingly rural countries. The more optimistic conclusions drawn from these calculations, however, were soon contradicted.[3] It was argued that the growing middle strata of the Latin American cities constitute a phenomenon quite different from the frugal, enterprising middle classes supposed to have provided the motive force for the development of nineteenth-century Europe. The Latin American middle strata were accused of aping the ostentatious consumption patterns of the upper classes, of dependence on clientele relationships, governmental protection against competition, and expansion of public employment, to the neglect of much-needed entrepreneurial initiative; and of failure to provide political leadership capable of more than a superficial modernization of the traditional structures. This kind of negative assessment has even been taken up by the Press read mainly by members of the middle strata, and criticisms of "*empleomanía*" are commonly linked with criticisms of the content of middle and higher education.

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[2] One observer suggests that this trend may determine the composition of the future political as well as economic *élite* if the public universities do not solve their present problems of reform and raising of standards. (John P. Harrison, *Learning and Politics in Latin American Universities*, The University of Texas Institute of Latin American Studies Offprint, Series, No. 10.) The investigations carried out by the *Centro de Estudios del Desarrollo* (*CENDES*) of the Universidad Central de Venezuela among *élite* groups, indicated that the "economic *élite*", unlike the political and cultural *élites*, was disposed to support private education in order to meet its needs for technicians, partly because of distrust of politicized national education. (Julio Cotler, "El proceso de cambio de la elite venezolana", in *Sociología y sociedad en América Latina, Memoria del VII Congreso Latinoamericano de Sociología* (Bogotá, 1965), tomo I, pp. 122-136.

[3] The main landmarks in the different stages of discussion of the middle "classes", "sectors" or "strata" include the six volumes of *Materiales para el estudio de la clase media en América Latina*, issued by the Office of Social Sciences of the Pan American Union in 1951; John J, Johnson, *Political Change in Latin America: Emergence of the Middle Sectors* (Stanford University Press, 1958); and "Social development of Latin America in the post-war period" (E/CN.12/660). A study submitted to the Central American Economic Co-operation Committee in 1960, "Las clases medias en Centroamérica: características que presentan en la actualidad y requisitos para su desarrollo" (E/CN.12/CCE/176/Rev.2), exemplifies the attempted application of technical advice to the problems of the middle strata.

Between 1955 and 1965, according to UNESCO calculations, enrolment in schools at the middle level grew by 120 per cent and in institutions at the higher level by 114 per cent, while primary education grew by 72 per cent. While expansion of middle and higher education, possibly at an even faster rate, is undoubtedly needed, the kind of expansion that took place did not respond to any clear public objectives. The urban middle strata presented irresistible pressures for secondary education for their children, and for the kind of education that would lead, if possible, to the university and a professional career or, if not, to a certificate giving access to public or private white-collar employment. In a much more limited way, parts of the urban lower strata began to struggle for the same objectives.

The degree of expansion of middle-level education corresponds very closely to the estimated percentage of the urban middle strata in each society. Within these strata, middle-level schooling has become practically universal. The low percentages of such enrolment in some countries coincides with the limited growth of their middle strata. While various distinctions could be made between different types of countries in relation to the education of these strata, one general trait is the channelling of the greater part of enrolment into academic secondary schools and the scanty flow of entrants to technical education at the same level.

Educational planners are now insisting that the channelling of more than two thirds of the vastly expanded secondary enrolment into university-preparatory courses cannot be permitted to continue. The general lines of the needed reforms were widely agreed upon, even at the beginning of the past decade. The more difficult part of the problem is the finding of effective means of "educating" the most eager consumers of education into accepting such reforms.

The difficulties for policy and planning are more complex than might appear at first sight. The character of the demand for middle-level education not only tends to concentrate it upon traditional university-preparatory lines but also reinforces the downward pressure on quality inevitable in a period of rapid expansion; the "customers" lack interest in the future practical application of what is being taught and do not exert a strong corrective pressure if the school system sacrifices quality to quantity.

A few of the factors that exert a downward pressure on quality deserve specific mention. For one thing, the demand for teachers is growing much more rapidly than their training at satisfactory levels of qualification. An appreciable proportion of the teaching staff in secondary schools have formal educational levels no higher than those of their students. As is pointed out in the chapter on the universities (see below, chapter V) these are turning out very few secondary school teachers. For another, the strong traditional dependence on memorization accompanied by neglect of the student's capacity for reasoning and inquiry becomes still more self-defeating with the expansion of enrolment. The system based on the storing up of data gradually loses its capacity to control the extent to which the students actually acquire information, while it also becomes harder and harder for the system to consider the possibility of serious changes in its methodological orientation. These two factors are compounded by a third, also of long standing, which aggravates the deficiencies of the system in relation to the needed formation of a modern spirit adapted to the aspirations of a society for development. The sciences have only a meagre role in the curriculum of academic secondary education. The percentage of school hours devoted to sciences in different Latin American countries, according to official data, vary between 19 and 43, with the majority falling between 28 and 35. These percentages undoubtedly exaggerate the real importance of modern sciences in the curricula. The introduction of the sciences is likely to derive from imitation of the study plans of other countries, and to be unaccompanied by the laboratories and other requisites of effective science teaching. Qualified teachers are particularly scarce, and the methods used tend to give the impression that science is a permanent body of facts rather than a continuing task of exploration using certain principles and techniques.

To the extent that public secondary schools do not meet the demand for expansion, the consumers turn to private fee-charging schools, the standards of which are even harder to control, to which the lower-income population groups have even less effective access, and which at the same time demand in the form of subsidies a major share of the public resources allocated to middle-level education. It is significant that university-preparatory secondary education in the majority of Latin American countries at present is largely in the private sector, while both primary and higher education are mainly public and free of fees (although incidental costs to the pupil can be important). Around 1962, according to one estimate, 70 per cent of the pupils in academic secondary education, or 50 per cent of the pupils in all middle-level education, attended private schools, while only 10 per cent of university students were in private universities.[4] This anomaly indicates the extent to which middle-level educational expansion has derived from consumer pressures rather than public policy; it also indicates the main mechanism through which "free" university education is reserved to limited strata of the population. Historically, the situation derives from the double origin of the school systems: university education for the *élites* (with the stages leading up to the university often handled by schools attached to the universities themselves), public elementary education for the masses, with the middle level almost disregarded.

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[4] Sylvain Lourié, "Education for today or yesterday?", in ***Problems and Strategies of Educational Planning: Lessons from Latin America*** (Paris, International Institute for Educational Planning, 1965), pp. 51-72. A 1964 calculation, omitting Brazil, arrives at a percentage of 37.4 for the share of private schools in total middle-level enrolment. Javier Le Fort and Patricio Cariola, S.J., "Algunos aspectos del financiamiento de la educación privada en América Latina" (UNESCO/SS/Ed. Inv./6.B), p. 6. Paper presented to the Regional Technical Assistance Seminar on Investment in Education in Latin America (Santiago, Chile, 5-13 December 1966).

If the consumers find admission to traditional lines of secondary education difficult and expensive and admission to technical-vocational schools cheap and easy, some others (the families at the "margin" of ability to keep their children in school) can be expected to send their children to the latter but to try to use such schools for their own original purposes.[5] This tendency seems to be partly responsible for the limited extent to which such schools provide training really corresponding to needs for up-to-date skills. The study of agriculture is a particularly obvious example; not only are enrolments very low in relation to national needs, but the overwhelming majority of the students come from the urban middle strata and seek urban jobs after graduation. The output of teacher-training institutions is also affected; they are used to obtain a low-cost secondary education (frequently with scholarship aid) by many young people who do not go into teaching or, when trained in "rural normal schools", find teaching jobs in the cities.

An important part of the enrolment in middle-level technical education that is registered in educational statistics, moreover, is not directed towards the training of industrial manpower but towards the tertiary sector or even towards persons who do not expect to enter the labour force. Training for the tertiary sector includes courses in commerce, accounting, typing, etc. The other case includes courses for housewives in cooking, sewing and domestic economy. For reasons already suggested, the pressures for expansion of courses of these kinds tend to be stronger than pressures for expansion of courses related to industry. The interests of the consumers coincide with the supply of teachers of these skills. It should also be kept in mind that the rate of desertion is generally much higher in technical than in academic secondary courses. Costs per pupil in the former are unavoidably higher than in the latter; the differential rates of desertion raise the cost per technical graduate still higher.

Not many children from the lowest "marginal" urban strata reach the middle-level schools, but increasingly substantial numbers of children from families of regularly employed workers do so. The few investigations that bear on their situation suggest that they are seriously handicapped in taking advantage of such education by their cultural background, even when family income is sufficient for their maintenance while studying.[6] To the extent that they succeed they are able to move individually into the middle strata, assuming the occupational preferences already described. The middle strata, using the schools as a means of social ascent, were unable to break away from an uncreative imitation of the education previously monopolized by the upper classes. The urban wage-earners now risk falling into a similar pattern, pushing their children into the already overcrowded ranks of the salaried employees.[7] Even if they should prefer education directed towards skilled industrial employment, the weaknesses of most industrial-vocational schools at present make this alternative unattractive.[8]

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[5] "It is not surprising that the groups moving upwards should accept technical and vocational training as the most appropriate for the country and for they themselves in principle, but should try to give their children the education that is characteristic of the *élite*, while recognizing that the real standards and criteria that govern social mobility are not of course the values of productivity. ...There will be a constant social pressure for introducing into the curriculum of the systems of early specialization, non-vocational courses that are more akin to the concept of general education than to that of a structure of trades. ...What will actually happen is that these specialized schools will tend to offer a watered-down form of general education for the lower population levels with access to education." (Provisional translation.) Luis Ratinoff, "La expansión de la escolarización", in *Cuadernos de la Sociedad Venezolana de Planificación*, No. 37-38 (January-February 1967), p. 48.

The influence of the urban middle strata on the school systems is not limited to pressure from the outside for specific kinds of education; members of these strata—themselves products of the educational patterns that have been described—staff the school systems and inevitably impart to them their own values and anxieties. The school systems are as subject as other sources of livelihood to organized pressures for protection of status, job security and expansion of employment, particularly in administrative posts[9]. Reforms that seem to threaten the interests of any specialized group of teachers or administrators are resisted, usually through political channels. At the same time, efforts to rationalize the expansion of the educational systems are countered by continual pressure for special programmes and new local institutions, often well-meant and desirable in themselves but unrelated to priorities and in practice contributing mainly to the creation of new jobs and the complication of the administrative apparatus. The present proliferation of new universities and specialized schools in response to local or sectoral initiatives, without consideration of the objectives of training or the availability of qualified staff, material resources and students, is one important facet of this problem[10]. The planning agencies themselves are far from exempt from the pressures toward bureaucratization that derive from the educational experience and occupational aspirations of their staffs.

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[6] A study in 1961 of secondary students in Montevideo, a city in which working-class youth have relatively equitable opportunities to enter secondary school, indicates wide differences in rates of wastage and also in final examination standings according to the occupation of the father. Among students in the first year in the *liceos*, 19.2 per cent came from families of skilled workers and 3.3 per cent from families of labourers. In the fourth year the corresponding percentages had dwindled to 5.3 and 0.4. (Aldo E. Solari, "Estratificación social y rendimiento liceal", paper presented to the VIIth Latin American Congress of Sociology, Bogotá, July 1964.)

[7] A recent study of youth in a low-income district of Santiago describes the importance to them of education as a means of escaping from their environment and their class, and points out the probable role of present patterns of education in depriving the lower-income population of educated leadership sprung from its own ranks. (Adolfo Gurrieri, "Situación y perspectivas de la juventud en una población urbana popular", E/LACCY/BP/L.2.) Another inquiry in Santiago suggests that the unsatisfactoriness of income and occupational rewards from secondary education and the gap between the lower-income recipients' aspirations and the likelihood of their satisfying them induces the families to fall back on a valuation of "educational status" for its own sake. (Peter Heintz, "A study of educational sociology", paper presented to the VIIth Latin American Congress of Sociology.)

[8] In Peru, studies by the National Service for Apprenticeship and Labour indicate that in spite of a deficit of skilled workers in industry less than 11 per cent of the 4,341 technicians specializing in industrial skills who graduated from government schools between 1962 and 1965 actually went into industry. "The reason why factory owners do not accept, or accept only a limited number of skilled men, is the poor professional training these men have received." (Case study presented by the Government of Peru to the Latin American Conference on Children and Youth in National Development (Santiago, Chile, 28 November to 11 December 1965), document E/LACCY/CS/L.1, published (Spanish only) in *Selección de documentos presentados en la Conferencia Latinoamericana sobre la Infancia y la Juventud en el Desarrollo Nacional*, Fondo de las Naciones Unidas para la Infancia.)

The above considerations do not mean that the middle strata need be accused of deliberately monopolizing and distorting educational opportunities. Their position is difficult, particularly in the countries in which they are already numerous while economic growth is lagging. The burden of educating their children above the primary level can be very heavy and, as already indicated, the resulting opportunities for upward movement in status and incomes are likely to be increasingly disappointing within the occupational areas on which they have been concentrated up to the present. They are now encountering a particularly frustrating bottleneck between the secondary schools and the universities, as the latter have not expanded rapidly enough to take in the increasing numbers formally qualified to enter, or have thrown up their own barriers to screen out the products of depreciated secondary schooling.

On the other hand, there are the influences which can be brought to bear by the students themselves, who, whatever their social origin, constitute groups not yet committed to the existing status and occupational order; they are stimulated by their own adolescent drives as well as by external difficulties to take a critical or rebellious attitude toward it, and are highly important both for their numbers and their concentration in urban institutions. In some quarters considerable hopes had been invested in them as a force for revolutionary social change. In practice, the obvious unrest among them at the present time seems to correspond to an unresolved mixture of several alternative ways of coping with the future. One alternative is the exertion of organized pressure to make the secondary and higher institutions conform to their own limitations, in the hope that education will nevertheless produce its traditional material rewards. Another alternative is to seek entry into the existing clientele system, whether through family connexions or through party politics. Still another alternative is to enter deliberately into the national quest for democratization and development, to assess and support educational reforms for their contribution to this effort, and to seek constructive contacts with the "marginal" urban and rural majorities. The recent large-scale participation by students in several countries in campaigns to promote local organization and self-help among peasants and in urban low-income settlements, whatever their direct usefulness to the masses, is highly promising in terms of the gaining of a more realistic appreciation of needs and possibilities for social change by the future national *élites*.

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[9] A paper by Fernando de Escondrillas presented to a 1964 seminar organized by the International Institute for Educational Planning documents the hypertrophy of the administrative apparatus. In the secondary school system of one country, administrative officials outnumbered teachers by two to one; and this situation, it was emphasized, was not peculiar to the country in question. (See *Problems and Strategies of Educational Planning*, op. cit., p. 171.)

[10] The dangers of this trend have been pointed out by the authorities on several specialized fields of higher-level training. According to the Director-General of the Food and Agriculture Organization, of the United Nations (FAO), "Most of the countries in Latin America have not, as yet, any clear idea of the trained personnel which their development plans and programmes may require. ...At the same time, however, one can notice in many countries a proliferation of training institutions which would not seem to respond to any pre-established plan. This can only lead to a dispersion of efforts...."(Introductory statement to the Latin American Conference on Food and Agriculture (eight FAO Regional Conference), held at Viña del Mar, Chile, 13-29 March 1965, document LARC/65/CONF/5, pp. 6-7.) For a discussion of the same problem in relation to schools of social service, see Virginia A. Paraiso, "Social service in Latin America; functions and relationships to development", in *Economic Bulletin for Latin America*, vol. XI, No. 1 (April 1966), pp. 71-105.

The rate of growth of middle and higher enrolment during the past decade, at more than 10 per cent annually, has exceeded very considerably not only the rate of population growth but also the rate of economic growth. The possible consequences of such rapid growth, when divorced from effective manpower planning and quality control of education, have been summarized as follows by an economist:

> "[The numbers of] school and university graduates tend to expand faster than even a fairly fast rate of expansion in national income, and frequently the rate of expansion in national income itself is tapering off, say because of a levelling off of export expansion....The aim [of the students] is to get a 'middle class standard of life' with a good suburban house and a car, a standard hitherto enjoyed by a favoured minority. Now it is patently impossible for an ever-growing number of graduates to enjoy a standard of living which is five to ten times the *per capita* income of their countries, unless the national income is growing at a very fast rate indeed. On the other hand, given the low academic standards which follow the expansion in the number of students, the new graduates are too poorly qualified to improve the standards of administration and introduce the new methods of organization and production which alone can increase productivity and incomes. Hence we have the forces piling up for an 'explosion' following the disappointment of the 'revolution of rising expectations".[11]

Up to the present, unemployment of the educated has been a less conspicuous phenomenon in Latin America than in parts of Asia and the Middle East. The higher degree of urbanization, with accompanying opportunities for white-collar employment, and the overwhelmingly urban origin of the students reaching the higher educational levels are probably important reasons; young people from families of small landowners, village shopkeepers, etc., educated in the cities and determined to remain there, have been less numerous in relation to the size of the urban population than in the other regions. There is some evidence, however, that unemployment among the educated is now on the increase. The character of the "explosion" that is bound to result from the contradiction between the uses to which education is put and the absorptive capacity of the economies will depend in large part on the ability of students from the urban middle strata to understand what is happening and formulate different objectives for their own education.

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[11] Hla Myint, "Education and economic development", paper presented to the VIIth Latin American Congress of Sociology (Bogotá, June 1964).

The educational characteristics and problems summarized above are the product of cumulative changes in the functions of secondary education and the university.These changes are in large part overlapping or concurrent in time, while in the developed countries they took place in stages that can be demarcated with some exactness, among other reasons because of the time that elapsed between them.

Over a long period secondary education was for many Latin American countries the highest level of the educational system. The establishment of universities in several countries filled a gap that certain upper-class elements had previously filled by sending their sons abroad to study. Even after the foundation of universities, however, these had, and still have, enrolments so small in relation to population size that in practice secondary education represents the highest level available for a large proportion of young people.

Moreover, a university education is not always required for the most important roles in society. Secondary education thus shaped, and still shapes, a major part of the directing elements in the Latin American societies. Although the secondary school was regarded as an antechamber of the university, it was also regarded as an institution for general cultural preparation. It can be assumed that the values of the middle strata that were its main clientele gradually replaced or combined with those of the upper classes. Somehow or other this process managed to give generations of leaders a fairly homogeneous vision of the world and contributed to the formation of an ideology with certain uniform elements. In the case of Brazil it has been demonstrated that the values of secondary school teachers show a high degree of homogeneity in spite of the wide differences between regions and sources of recruitment.[12] Lastly, to understand the functions of secondary education it must be remembered that the superficiality of the courses was compensated for by a certain general vision of problems that was probably functional in countries in the initial stages of development. The so-called "classical" training, in spite of its negative aspects, can be effective in producing leaders suited to these stages. The very restrictive character of secondary enrolment in many countries must have contributed to the more effective carrying out of this function. Imaz shows that only a little more than a third of the Argentine *élites* in general and little more than a fourth of the entrepreneurial *élites* possess a higher-level education.[13] If this is true of a country where higher education is so extensive, the importance of the role of secondary education in the other countries can be all the more readily assumed.

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[12] Aparecida Joly Gouveia, "Education and development: opinions of secondary schoolteachers", in Seymour M. Lipset and Also Solari, eds., *Elites in Latin America* (New York, Oxford University Press, 1967), pp. 484-513.

The growing strength of pressures for expansion of secondary education has superimposed new stages before the earlier stage had been superseded. To the function of preparing for the higher positions in the society and the function of preparing for the university was added the function, rapidly increasing in relative importance, of preparing for series of middle-level social and occupational roles. Meanwhile, as was previously indicated, the expansion of enrolment could not be absorbed without a deterioration in the quality of the instruction.

French society took many years to make the transition from the period when the *baccalauréat* was considered an achievement conferring high prestige by itself, independently of the access it gave to the university, to the period when the *baccalauréat* has become an indispensable requisite for employment at levels which are becoming steadily lower, when it is no longer sufficient for many middle-level jobs and is no longer regarded as a guarantee of admission to the university. In Latin America on the other hand, this transformation is taking place in a period so short that different conceptions of the function of secondary education are superimposed, rising expectations are accompanied by rising frustrations, the universities find the preparation of applicants for entry steadily less adequate, the completion of secondary education is increasingly devaluated as a qualification for employment, while it remains the highest educational level attainable by many of those who will fill the most prominant roles in the societies.

In the midst of these diverse functions, of demands from groups with the most widely differing purposes, the unity of content and objectives previously enjoyed by secondary education tends to be lost in an ambiguous compromise that is "functional" for maintaining a consensus among the highly diverse groups and for slowing down as much as possible the transfer of power from some of them to others, but that is surely disfunctional in relation to the societies' needs of persons able to cope with the drastic and accelerated transformation of existing social structures. The changes in content that accompany the expansion of the system are very slow, among other reasons, because faster change would expose the incompatibility of the expectations that the different groups have invested in secondary education.

3. RURAL EDUCATION

The education that has been offered to the rural population up to the present appears remote from the pattern described above but in reality is dominated by it. For the most part, the rural school has been an exotic and sickly import from the cities, deriving from national policy rather than local demands. The small cultivator or rural worker might want education for his children but until quite recently he could exert almost no influence on the supply of schooling or its content. Gradually the geographical coverage of rural schools expanded, but with the really forceful demands for education coming from the cities, these schools remained pathetically ineffective copies of the first two or three grades of urban primary schools. Central attempts at planning and the fixing of standards did little to overcome the weaknesses; in part because of the lack of material resources and qualified teachers to back up the plans; in part because of the remoteness, both geographical and cultural of the authorities from the rural people; and in part because of the incompatibility of rural economic, social and political relationships with mass education.

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[13] José Luis de Imaz, *Los que mandan* (Editorial Universitaria de Buenos Aires, 1964).

In the more traditional rural areas in which effective agrarian reform has not begun, and most people are either resident workers on large estates or *minifundio* cultivators, three alternative roles can be envisaged for the schools:

(*a*) Their growth can be stunted and sterilized by the existing structures, so that the privileged position of the local upper strata is confirmed and the rural-agricultural population is discouraged from trying to make use of schooling irrelevant to its needs; [14]

(*b*) Their growth can undermine the existing structures by creating aspirations that cannot be satisfied within them by giving the rural people instruments to organize themselves and relate to national political life and by stimulating them to move out of the rural-agricultural environment altogether;

(*c*) Their growth can be linked with wider movements for rural advancement and reform, giving support to and receiving support from measures of land tenure reform, community development and provision of public services.

Up to the present, the first two roles, frequently in contradictory combinations, have been the general rule. The often described poverty and truncated courses of the rural schools corresponded to the exclusion of the rural population from participation in society, but even schools of this kind have done something to promote dissatisfaction with the traditional lot. As peasant unions and political movements begin to penetrate the countryside and as agrarian reforms loom larger, more insistent and specific demands for education are heard from the rural people themselves. [15] Meanwhile, local experimental rural school programmes in many countries have at least provided experience in techniques for education capable of assuming the third role.

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[14] An extreme case of a local school system filling this role is described in Gerardo and Alicia Reichel-Dolmatoff, *The People of Aritama* (London, Routledge, 1961).

[15] Several observers have commented on the pressure for better local schools exerted by the peasant unions of Bolivia and their vigilance over the performance of teachers. In various countries, rural groups have built their own schools and even hired their own teachers if they were unable to obtain teachers from the national authorities.

Since low productivity of labour in agriculture and unmanageable flows of migrants to the cities are two of the most notorious regional problems, it is natural that proposals should be advanced for rural education focused on agriculture, with school entry at an age higher than the standard for urban education. However, the task of equalizing rural and urban education can hardly be evaded in this way,[16] for many reasons, including the following:

1. Whether or not more satisfactory rates of growth in agricultural production are attained, the demand for agricultural labour cannot be expected to increase at a rate matching rural population increase. In most countries between a third and a half of the rural children can be expected to move into non-agricultural occupations. For them, the really relevant demand upon the rural schools is that they prepare for life in the national society, giving a basis for further formal education or for training on the job, and the rural primary school cannot distinguish between the children who will leave agriculture and those who will stay.

2. For the group remaining on the land the central long-term need is not for the kind of simple agricultural instruction that can be given in the primary schools. Within the traditional rural structures, such teaching would be almost irrelevant, and it must be assumed that future agricultural development will mean, on the one hand, an increase in the number of economically viable family farms and, on the other, the modernization of large holdings, whether under individual ownership, co-operatives or other forms of tenure. Both trends will require rural workers able to operate machinery and ready to absorb new techniques from the printed page, radio and demonstrations. For these purposes what can reasonably be asked from the primary school is functional literacy, some acquaintance with mechanical principles, a consciousness of the possibility of technical change and progress, and an awareness of the sources of new information. Rural teachers are in general very poorly qualified to carry out these minimum tasks of primary education, but it will be more feasible to qualify them for such tasks than to convert them into effective instructors in agricultural techniques.

3. Primary education concentrated on agriculture would meet strong resistance from the rural people themselves, largely because of their awareness of the factors already mentioned. They would have good reason not to expect such education to be of much practical use, under the conditions in which it would filter down to their children, and they would expect it to perpetuate their inferior position in the society. The rural people now demand education, first as a means of defending themselves against exploitation through ability to read, write and calculate, and, second, as a means by which their children can escape from agricultural labour.

Effective rural school attendance for the standard primary period of six years—let alone the longer periods of universal general education now being proposed—will place heavy burdens on the parents, in view of the continuing importance of child labour in agriculture, even if the incidental costs of school attendance are kept to a minimum. The parents will naturally expect their sacrifices to be rewarded in terms of status and earning power. If the rural economies become more dynamic a considerable expansion of local employment rewarding education and mechanical skills can be expected—truck, bus and tractor drivers; repairmen for machinery; better paid rural school teachers. Positions of local leadership requiring education will also become more numerous and attractive—municipal officers, co-operative and peasant union chiefs, political party spokesmen and organizers. If real opportunities do not expand, however, the educated rural youth can hardly avoid being drawn into the previously described pattern of competition for urban white-collar employment.

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[16] Alternative approaches to rural educational policy are set forth in Thomas Balogh, "Land tenure, education and development in Latin America", *Problems and Strategies of Educational Planning*, op. cit., pp. 115-123; and Alvaro Chaparro, "Education and training for agricultural development", *ibid.*, pp. 131-140.

Very few rural children are at present within geographical range of any kind of post-primary school. Any increase in the number of such children able to obtain a complete primary education is bound to be followed by an upsurge in the numbers seeking further schooling. If their needs cannot be met locally the result will be a speeding up of out-migration of the young people who are best qualified and whose parents can give them some aid in pursuing studies in the cities. Few of them will return, even if unable to realize their educational aspirations.

The case for schooling directed towards agriculture and related occupations is stronger at the post-primary than at the primary level, since it should be practicable to select the young people more likely to remain on the land. If agrarian reforms result in important numbers of family-sized farms where technical innovations can be made use of and in modernization of the remaining large holdings, full-time middle-level courses teaching not only agricultural techniques but also the associated skills needed by the modern farmer or farm manager (accounting, operation and maintenance of machinery, assessment of marketing alternatives, etc.) should be in demand. Even under such circumstances, however, full-time schooling may not be the most important or effective way of training future farmers.[17] If small peasant proprietors are to predominate, as will be unavoidable in some of the more densely settled agricultural zones, full-time post-primary education for any considerable number of rural youth expecting to remain on the land would hardly be practicable. In either case, effective primary education would lay a groundwork for the improvement of agriculture and levels of living through the combined use of extension workers, youth clubs, short courses for adults, radio classes, co-operatives, etc. Plans for rural education need to take into account the expected future patterns of the national societies in their entirety, and universal complete primary education is an unavoidable priority objective in such plans; plans for the narrower area of agricultural education need to be brought into harmony with objectives for the future structure of agriculture and the kind of labour force it will be able to use.

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[17] Chaparro, in "Education and training for agricultural development", op. cit., describes the shortcoming of agricultural education up to the present, remarks that "the kind of training given in the agricultural schools is often quite irrelevant to local conditions", and emphasizes the advantages of farm training centres offering short courses of different length and type according to needs, but concludes that "such training may be useless unless land reform is carried out simultaneously".

The greater part of the rural population of Latin America lives in tiny hamlets, too small to support more than a one-teacher primary school, or is dispersed by single families. While present national policies commonly envisage the concentration of rural families in larger settlements, actual trends seem to be more commonly in the direction of greater dispersal and impermanence of dwelling places. Improvement of roads and bus transport will gradually permit the bringing together of children from an important proportion of these families in larger schools, but accessible post-primary education will have to depend on the small towns that are administrative centres of *municipios*, marketing centres and seats of local branches of technical services provided by the national Governments. In the past, most such towns have filled the role of community centre lethargically or oppressively, monopolized whatever public services were available, and prided themselves on their superiority to and detachment from anything rural. At present, they are tending to lose the few functions they have carried out; as communications improve, local markets dwindle in importance and the youth of the small-town upper and middle strata migrate to the cities.

The selective revitalization of such towns is desirable because vigorous local centres are needed to make accessible to the rural-agricultural population services bringing their levels of living into closer correspondence with urban levels, and because the creation of employment opportunities in such centres can retain part of the migratory current that is now flooding into the great cities of the region. Policies for revitalization of such towns would certainly include the establishment of middle-level schools of a quality matching those of the larger cities, with effective access for rural youth and with adaptations in educational content directed towards the meeting of local needs for specialized skills. If the schools are set up without simultaneous application of programmes ensuring a real expansion of local demands for such skills, they can, of course, be expected to promote rather than counteract the process of out-migration. In this area of educational policy, consumer demands on education from the local upper and middle strata can be expected to be particularly obstructive. In large parts of Latin America, however, the desertion of the small towns by these groups and their replacement by mobile elements from the rural lower strata seem to be introducing new potentialities as well as new problems.[18]

4. EDUCATION AND THE MOBILE LOW-INCOME OR "MARGINAL" POPULATION

Throughout Latin American history, contacts between the rural population and the urban societies have been limited and disadvantageous to the former: in general, the larger landowners have "represented" passive rural majorities in these relationships. In recent times, contacts have become more frequent and varied without becoming less disadvantageous. The previously sharp dividing line between urban and rural is becoming blurred, although not in exactly the same ways as in the older urbanized countries, by the geographical mobility of millions of families and individuals seeking a living wherever it can be found, unable to commit themselves to any specific occupation, without specialized skills and with little or no formal education, although often with varied work-experience and considerable information concerning relative opportunities in different settings. Present information, deriving from a limited number of field investigations carried out in different periods and in scattered localities of the region, hardly justifies generalization on the relative importance of the influences behind the growth and increasing mobility of the population groups now commonly labelled "marginal". The more obvious influences, however, can be summed up briefly:

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[18] See "Rural settlement patterns and social change in Latin America", in *Economic Bulletin for Latin America*, vol. X, No. 1 (March 1965), pp. 1-21.

(*a*) Rapid population increase is making the previous geographical and occupational distribution unworkable. In the older zones of *minifundio* cultivation sub-division of holdings through inheritance and unavoidable over-use of the land is impoverishing the soil so that many of these zones can no longer support even their present populations without a deterioration of levels of living. Labour demands of the large holdings are not expanding, and present trends toward mechanization and modernization suggest that the demand for rural wage labour will remain static or decline, even if production increases. Settlement of new lands is a practicable alternative for only a small part of the excess rural population.

(*b*) Consciousness of the advantages of urban ways of life, of the gap between urban and rural incomes, and in some countries of relative urban security from violence and oppression has penetrated the countryside. Earlier contacts through seasonal labour migration, military conscription, etc., have been powerfully reinforced by the wider penetration of truck and bus transport and by the now ubiquitous transistor radio. The urban attraction has affected the small towns earlier and more strongly than the rural hinterland itself, and the decline of these towns has made it more difficult for the growing needs of the rural population to be met locally.

(*c*) Studies of migrants that have entered industrial employment and of rural localities supplying recruits to industry suggest that these recruits are not drawn from the poorest rural strata forced off the land; most of them are young men having some advantages in terms of education, relatives already in urban-industrial settings, etc. Except in a certain number of dynamic cities however, the most conspicuous problems of urbanization are, unfortunately, not those of transition from rural to industrial ways of life. Expansion of employment in modern industries and in other urban occupations of relatively high productivity, while substantial, has lagged behind the rate of growth of the urban labour force. This lag has been determined not only by the over-all rate of growth in industrial production, but also by the derivative character of industries directly copying the labour saving techniques of the industrialized countries; by the unskilled, uneducated and unstable character of most of the labour force seeking urban employment; and to some extent by the costliness of the systems of social security and labour protection being introduced at the same time and tending to dissuade employers from hiring unskilled labour. Consequently, the more marginal part of the labour force has not found access to modern industry and has sought a livelihood in a variety of occupations of low productivity, including services and also small-scale "industries" that have proliferated without regard to the regulations governing the modern industries. The capital-intensive character of the industries needed for the next stages of economic growth suggests that the absorption of marginal labour will become even more difficult and that the disguised unemployment prevailing among the urban masses will be converted into open unemployment of large dimensions, as seems to be happening already in a few of the great cities.[19]

The population strata taking shape from the influences discussed above are too heterogeneous and probably too transitional to be discussed satisfactorily in a short space and on the basis of the fragmentary information now available. The phenomena can be described in terms of extreme poverty, social disorganization and deprivation of traditional sources of security but indications can also be found of the emergence of new forms of local social organization, leadership, even entrepreneurial talent, that show the resilience of human beings coping with formidable problems.

The label "marginal" has come to be applied rather loosely to the strata in question, sometimes as no more than a pretentious synonym for "poor". In other writings it is associated with the advocacy of specific policy approaches starting from the assumption that the marginal population, by definition, is incapable of attaining full participation in the national societies and economies without special techniques of aid and organization from outside. Some studies have preferred terms such as "urban popular sector" that can be more generally applied to the low-income strata and that do not convey preconceptions concerning the relations of these strata with the rest of the society.[20]

"Marginality", in any case, does suggest certain prominent problems of the Latin American urban as well as rural low-income populations, with the caution that the problems under discussion apply, in varying degrees, to the whole of the low-income population, that present evidence does not support the drawing of a clear dividing line between "marginal strata" and others, and that the existence of a helpless and undifferentiated "marginal mass" cannot be assumed. In the sense in which the term appears in the interpretation of development at the beginning of this discussion, "marginality" implies limited, discriminatory and insecure contacts between the population strata in question and the rest of society in respect of occupations, participation in political decision-making and control over goods and services (including public services such as education). Marginality, under such an interpretation, is distinct from isolation or exclusion; the strata in question are in continual contact with society and the monetary economy. It is not identical with poverty, although marginality is normally accompanied by material as well as cultural deprivation; regularly employed workers participating actively in trade unions and in political life are not marginal, although their incomes may be low. (In practice, as has been already suggested, workers of this type in much of the region seem to be closer in aspirations and consumption patterns to the middle strata than to the masses still seeking a defined place in the urban society and economy.) The marginal individual typically lacks knowledge concerning legal rights and entitlement to social services, or confidence in his ability to enforce such rights through public channels. For protection against exploitation he seeks a "*patrón*" or intermediary. In the cities at present, social and occupational marginality increasingly coincide with physical marginality and segregation, as rising proportions of the low-income population, unable to find a place in the older and more central slums, congregate in settlements on the periphery. The needs of such settlements for self-defence and pressure on the authorities to obtain urban services are in turn producing new forms of local solidarity that can be interpreted either as collective adaptations to marginality or as collective efforts to overcome this status.

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[19] For analyses of the problems and probable trends of industrial employment, see *The Process of Industrial Development in Latin America* (United Nations publication, Sales No; 66.II.G.4); "Structural changes in employment within the context of Latin America's economic development", in *Economic Bulletin for Latin America*, vol. X, No 2 (October 1965), pp. 163-187; Anibal Pinto, "Concentración del progreso técnico y de sus frutos en el desarrollo Latinoamericano", in *El Trimestre Económico*, No. 125, January-March 1965 (Mexico, Fondo de Cultura Económica), pp. 3-69.

[20] See "Social development of Latin America in the post-war period", op. cit., chap. V.

The comparable elements of the rural population, those who have lost their ties to a specific neighbourhood and plot of land, congregate in various types of transient nuclei and line settlements wherever seasonal jobs are available, with much more limited possibilities for the formation of new social ties.

None of the countries attaining effective universal education in the past has faced, on a scale comparable with that indicated by present Latin American population trends, the problem of adapting education to the needs of "marginal" masses, although some of these countries are still struggling with such problems in relation to minorities. Marginal status is compatible with strongly felt needs for education; indeed, some marginal families seem to invest exaggerated hopes in education as an avenue towards higher status for their children, and appreciable proportions of low-income families that have been questioned about reasons for migration to a city mention the attraction of better urban educational opportunities. Such aspirations are probably far from universal, however; investigations indicate that a good many marginal families are too resigned, disorganized, or preoccupied by problems of food and shelter to give much thought to education. Most of the urban marginal families, unlike rural families, are within range of complete primary schools and even secondary schools, though rarely within easy distance of the latter. At the same time, marginal families are handicapped in taking advantage of the education offered, to such a degree that most of their children do not finish primary school. The main difficulties can be summarized as follows:

(*a*) The most obvious handicap is the incompatibility between family levels of living and extended schooling. The nutritional and health situation of the children from marginal families is usually poor. The very high levels of fertility that prevail in these strata—urban as well as rural—limit the parents' capacity to give adequate support; even clothing required for school attendance may be lacking. The clash between school attendance and activities contributing to the family livelihood is not so generalized as in the rural areas, but is undoubtedly important, in spite of laws in almost every country in the region prohibiting employment of children below the age of 12 or 14.

(*b*) The geographical mobility of the rural marginal population, and to a lesser extent of the urban, interferes with continuity in education and conflicts with efficient use of permanent educational installations. The construction of schools almost always lags behind the growth of the low-income urban peripheral settlements. Their primary schools are naturally overcrowded and of poorer quality than those of other urban zones. Home conditions practically prevent study outside the schools (in which double or triple shifts with abbreviated hours of instruction are typical). Young people completing primary school under such disadvantages have to go long distances outside the settlements to find secondary or vocational schools, where they must compete for places with better-prepared and better-off urban youth.

(*c*) As the child from a marginal family—or even from a relatively well-off working-class family—progresses beyond the first few primary grades, the domination of the school system by the values of other social strata faces him with various difficulties. Teachers and students from the middle strata are likely to be prejudiced by his social origin. His parents' educational level is too low for them to help him in his studies, as is usual in other strata, or to help him make sound choices concerning post-primary studies. The absence in his family of reading matter or the habit of reading, and the usual dependence on the radio for entertainment and information, further handicaps him in settings in which reading ability is of primary importance. The content of schooling, directed even from the primary level towards the academic secondary school and the university, is unrelated to his background or to his probable occupational opportunities.

The school systems have begun to apply a number of measures designed to make education more accessible and useful to children from low-income or marginal families; these include school meals, school health services, employment of trained social workers to maintain contact between the school and the child's family and find remedies for domestic obstacles to school attendance, employment of education and vocational guidance specialists, etc. Such measures have been introduced piecemeal, frequently deriving from external offers of aid (particularly in the case of school meals); it does not appear that in any country as yet they respond to a comprehensive plan fixing priorities for complementary services and based on study of the problems of low-income families in specific settings. A few local attempts have been made to involve the families, through *centros de madres* and *asociaciones de apoderados*, in aiding and influencing the education of their children, but the centralized and bureaucratized traits of the school systems have thus far prevented this very important line of action from making much headway.

A realistic calculation of the costs of bringing effective education to the low-income strata cannot be limited to the direct costs of school buildings, supplies, and teachers; the costs of complementary services on a much wider scale than at present would have to be included. At the same time, the extent to which the educational system can advance ahead of progress in other sectors has its limits. The shortcomings of education for the low-income strata are not only problems with their own unique characteristics and sectoral remedies; they are also symptoms of wider deficiencies in the economic and social structures, and can hardly be resolved without simultaneous attacks on the problems of marginality and poverty from several directions, including—in addition to the basic economic objectives of expanding production and markets—the expansion and diversification of employment opportunities and the strengthening of popular organizations able to participate effectively and rationally in the national debate over development policies, including educational development policies.

Chapter IV

SYSTEMS OF VALUES AND EDUCATION IN LATIN AMERICA

1. BACKGROUND

The literature dealing with value systems and their influence on education is scanty in the world at large, and practically non-existent in Latin America. The methodological difficulties involved, the various possible avenues of approach to the subject, each and all represent questions of enthralling interest which in the main are by-passed here for the sake of brevity, although they are present in the background, and are sometimes explicitly brought to the fore. The real aim of the present chapter is to propound a few hypotheses which should perhaps be regarded as pointers to future research rather than as deriving from empirical evidence already obtained. In any event, they are dictated by the imperative need to view educational problems and development problems in the broadest possible perspective, which will reveal them as what they are: not two entirely different issues, but twin products of given economic and social structures.

A system of formal education not only imparts a mastery of intellectual skills, specific types of learning, etc., it also endeavours, explicitly or implicitly, to mould the pupils according to some system of values. In the last analysis, the classic observation that all teaching implies an ideal of what man should be—on which the students must be modelled—involves, at least in essence, the inculcation, or the attempt to inculcate, a system of values. Plato asked whether *areté* could be taught, and this brings into focus the other possibility, namely that only a few have the inborn ability to attain a given state. Even in this case, however, the question refers not only to the attainment of knowledge but also to something which is perhaps more fundamental, the possibility of participating in a specific system of values. Moreover, although it may be assumed that this calls for certain innate qualities, these qualities must blossom and develop through an educational system, without which such participation would be impossible.

It is a well-known fact that all the societies known to man have had different value systems, which they have tried to consolidate and maintain by means of education. From this standpoint, widely varying distinctions and classifications may be made. It may be assumed, at least theoretically, on the one hand, that a single value system is put forward by the society as a whole through its educational institutions; or, on the other, that many systems vie with each other. The third possibility—that the value systems inculcated have certain features in common, so that in a way they may be regarded as constituting an integrated system, but that they also have some features of their own—would be covered by the former supposition or the latter according to whether it was predominantly a single or a multiple system of values.

The systems of values whether single, or multiple and conflicting, which strive for dominance in a particular society must originate somewhere, and they can spring only from the group or groups which create and maintain them. In principle, therefore, we must accept the hypothesis that the greater the social differentiation, the more likelihood there will be that different value systems will emerge. By definition, an absolutely undifferentiated society could offer only one system of values. But this correlation is not absolute, since at least two qualifications must be taken into account. First of all, it is necessary to determine which of the different groups have access to the power structure. The organization of a system of formal education, whether by the Government or by other groups or institutions, implies the exercise of social power and the possibility that education will be influenced by a particular group to the extent it shares in the distribution of power. Therefore, a group without access to the power structure will have no influence on the value system that is transmitted through education.

The second qualification to be borne in mind is that the systems of values transmitted through education cannot be so different as to be incompatible with a certain degree of social integration. Even in highly differentiated societies, therefore, there are generally some common elements to be found in the value systems which are meant to be inculcated through education.

These observations lead to a point of fundamental importance. In considering the general process of socialization, as distinct from the more specific process which takes place through formal education, and including the family in that general process, the various groups are seen to occupy different positions in this respect. All groups participate fairly effectively in family socialization; in the other socializing processes—mass communication media, etc., and formal education—the share of power which falls to the different groups is much more important. One of the essential consequences of this fact is that those who have a system of values to impart but have no access to the power structure which would enable them to transmit it through the above-mentioned mechanisms will experience conflicts and tensions, and will not have much hope of ultimate success. Those with access to power, on the other hand, will promote the mutual strengthening of the systems of values transmitted through socialization inside and outside the family and through formal education. Education being the main subject of this study, one point should be stressed and borne in mind, that is, the importance of the conflicts not only between the value systems transmitted through formal education itself, but also between these and the various systems which the different socializing mechanisms are trying to impose.

It is clear from the foregoing that multiple value systems cannot appear in formal education unless they first exist in society, but the mere fact that they exist in society does not mean that they will necessarily be reflected in education. Where multiple value systems do exist, it may well be that only one of them is transmitted through formal education. If there is to be competition between different value systems within the formal education system, there must be different systems in society as a whole, and there must also be a real demand that those values should be transmitted through education. The previous question is, therefore, how to define the role of formal education and that of other socializing agencies in the transmission of values.

A theoretical scale can be conceived at one end which it is assumed that the school—taken here as representing all levels of formal education—plays no part in the transmission of values, and, at the other, that all values are transmitted through the school. Both extremes are theoretical and unconnected with reality, but it may not be without interest to consider the systems that have come close to them. Thus, when the institutionalization of primary education was in its early stages in the society of ancient Greece, the school had no role to play in the transmission of values, a task which was exclusively a family responsibility: the school was solely an instrument, in the most restricted sense, for transmitting the elementary techniques of reading, writing and arithmetic. The other end of the scale is reflected in many utopian educational theories, such as that advocated by Fichte. It is interesting to note that the idea that the school should be the only agency for the transmission of values is linked in this as in other utopian theories to the need for a radical change in the existing system of values. The first premise is that if a child were to be left in contact only with the family or similar socializing agencies, his intended conversion—in the broadest sense of the word—would never be achieved. The only way to secure his conversion would be to place him in sole contact with socializing agents trained in the new system of values. A significant correlation which exists in utopian terms seems to emerge also in practice: all other conditions being equal, the greater the change expected or desired, the greater the importance of the role played by the school in the transmission of values. In other words, every revolutionary régime, without neglecting other socializing agencies, tends to attach tremendous importance to the schools as a means of transmitting the new value system it is trying to impose. From this standpoint, there is no difference between the French Revolution of 1789, the Russian Revolution of 1917 and the Cuban revolution of 1959. At the same time, a definition of roles of this kind tends to diminish the importance of the family, which is considered a potential danger as a reservoir of traditional values.

The assignment of different roles to each socializing agency implies a different possibility from that of conflict between value systems within one educational system, which may apply both inside and outside a revolutionary régime. The school may be left to transmit one system of values, while other agencies transmit others which are more or less compatible with it. Any conflict would be reflected in the individual who is the object of the socialization effected by all the agencies involved rather than directly in the relations between the different institutions.

If—to give only one example—the family is assumed to have one system of values to transmit and teachers another, the above considerations indicate that there are two possible solutions to the problem. First, the family would create and maintain strong pressure to make the values inculcated at school exactly the same as its own. Secondly, the two roles would be separated; the family would leave the school to transmit the values that differed somewhat from its own, either because it believed that through its greater power as a socializing agency it would eventually succeed in imposing its own values, or, along the same lines, because presumably the school system of values would eventually be integrated with and subordinated to the family values. The school may attach great importance to loyalty and honesty, which form part of the middle-class system of values, but with lower priority than in the family. In the last analysis, the family expects the student to lighten this emphasis by placing the values concerned in a broader context—provided by the family—in which his acceptance of them will not turn him into an example of moral heroism for use in future school textbooks. Recognizing this as an inevitable process, teachers will tend to stress the values that are in jeopardy.

However theoretical, these considerations are none the less significant for studies on values and education. They indicate that widely varying solutions are possible, including different forms of compromise, and that, except in a revolutionary context, there will not necessarily be a very close correlation between the types of values imparted by the school and the different types of society. A society where *entrepreneurs* predominate is not necessarily one in which formal education is imbued with entrepreneurial values. Their transmission can safely be left to the family, while the inculcation of ideal values can be the special responsibility of the school.

If these solutions, which involve separate roles for formal education and for the family, for example, are to be workable, the link between formal education and employment must obviously be relatively weak. Other things being equal, it must be assumed that the closer the relationship between education and employment, the greater will be the interest of all groups in using the school to impose their own value systems and, consequently, the more they will bring pressure to bear on the political leadership to produce this result. The proliferation of groups and the steady increase in their demands on the central power structure are typical features of social development. Education—which, as countries develop is governed more and more by centralized decision-making—cannot escape this process, which is helped on by the decline in the importance of the family as an institution.

2. General features of the Latin American value system

If these theoretical postulates are accepted and are applied to Latin America, less disparity and internal inconsistency may be expected between the models transmitted through formal education than in the more developed societies, although it is foreseeable that the disparities and inconsistencies will increase. Inasmuch as the process of social defferentiation has not gone so far, very few models will be offered at the level of society as a whole. Since several of the groups which support those value systems have no real social and political power, these systems will not actually be put forward as alternatives through the school system. The stability of the family, will help to keep internal conflicts within the school system.

The wide range of situations existing in Latin America covers all shades and nearly all compromises, from those where there is virtually only one system of values that really counts in society as a whole and in the school, to those where the pressure exerted by groups seeking to impose their own systems of values on the school system may cause sharp conflicts within the system itself, just as is happening in the more developed societies. Furthermore, there may not always be much connexion between the value systems put forward by the school system and the different types of society in which they are found.

Even so, the consequences that may be inferred from the foregoing considerations seem to be borne out in Latin America. Suffice it to recall, for example, that—disregarding Cuba for the moment—the labour movements carry no real weight in determining the value systems to be transmitted through education, even in countries where they are best organized. Since, however, there is considerable social differentiation in some societies, which actually goes hand in hand with some degree of participation by several social groups, there cannot really be a single model except in a few cases.

In these circumstances, the various groups will try to impose their value systems through the formal education system and, as far as possible, to exclude those of other groups. In this and other points, a conflict situation will arise between the groups. The repercussions of this situation in the form of the demands made by the different groups are considered in other sections of the present study.

One of the best classifications proposed, in the case of the United States, includes the religious social model, the nativist model, the market model, the common man model and the humanist model. The first, with its Catholic and Protestant variants, needs no explanation; in the nativist model, traditional values are held to be the true core of culture; in the market model, society seems to have unlimited possibilities provided it evolves under conditions of complete freedom, particularly of free enterprise; in the common man model, special importance is given to the common man, particularly the industrial worker, on whose anonymous efforts the country's greatness depends; in the humanist model, the basic elements are the human being, his self-discipline, free intelligence and humanistic spirit. Each value orientation is upheld by a different group, and each group "has to work to gain acceptance and continuing faith in its values".[1]

Although this classification cannot be accepted without reservation, it provides a point of departure for considering the question in relation to Latin America.

3. THE FUNDAMENTALIST MODEL

In the nativist or, as it is called here, the fundamentalist model, prime importance is attached to certain values which are assumed to be linked with the community's origins, and which are represented at their highest level by historical personalities. These personalities are associated with the birth of the community, as it is defined by the proponents of fundamentalism, or even with an earlier stage which contributed to its advent by thought or action.

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[1] H. Otto Dahlke, "Value orientation, social models and education", in *Values in Culture and Classroom* (New York, Harper and Brothers, 1958), pp. 41-66.

The system of values is considered to be fixed; it cannot and should not change in essence. The rightness of all social action and all thinking is measured against it. It defines society and, at the same time, anti-society. In this model, negative values are as important in understanding the proposed system as the positive values it implies, which is also the case in other models.

Fundamentalism is a very broad model which can be of many different types, e.g., the patriotic model, the traditional model and the ideological model. In so far as the fundamentalist model implies a definition of what society should strive to attain and, by its very nature, is accompanied by an exceptionally high valuation of that society in comparison with others, and in so far as it involves relatively little development of the critical faculty, it has a better chance of succeeding at the primary education level, although it can exert influence, and even a predominant one, at all levels.

All the Latin American countries without exception seem to have a patriotic-type fundamentalist model. All schools hand down a tradition of patriotism full of symbols and personalities, with various roles ascribed to both. What has not been properly investigated is how far this pattern implies a chauvinistic, contemptuous or disparaging attitude to foreign countries, particularly other Latin American States. The most that can be advanced is that, as the patriotic model is centred on the heroes who were the architects of Latin American independence, and as these heroes were closely associated with one another in that struggle, it is difficult to see how the role of some can be enhanced without diminishing that of others.

In Latin America the fundamentalist model itself presents substantial variations. Although the lay tradition is quite strong in State education, in some countries the fundamentalist model tends to merge with the religious model. In others, private education occupies an important place and is nearly all in the hands of religious orders. Therefore, although in theory it is possible to differentiate between the lay and the religious fundamentalist models, this distinction cannot always be made in practice.

In addition, there are certain traditional elements which may vary considerably. In some Latin American societies, although the indigenous population is of basic importance in quantitative terms, and even in terms of actual influence, the conception of the Indian's importance and the value ascribed to his role in the ideology accepted by the dominant groups tend to vary widely. Thus, in Mexico, one of the aims of the revolution was to create a system of values which incorporated the Indian not only as a useful member of the nation, but as part of the definition of national excellence. In the system of values it transmitted, an attempt is made to foster pride in being of Indian blood, and any claim to being white is a negative value. In other countries, on the other hand, the value system is characterized from this standpoint by covert or overt contempt for the indigenous inhabitant, full of stereotypes of his role which tends to produce a self-perpetuating prophecy.

The most important and yet least explored problem is the relationship that exists in all these cases between professed values and real values.[2] Although under officially accepted democratic ideology, equal treatment for all members of the community is the professed rule, Indians or Negroes are often affected by discriminatory norms which, though less explicit than in other communities, are nonetheless there. In a very complex societal mechanism, race consciousness supports class distinctions, and *vice versa.*[3]

In any event, the fundamentalist model tends to fulfil an integrating function, since—at least nominally—it ascribes a role to all groups, although it underlines and strengthens that which the dominant groups in the society have had in its development. Thus, because the important landowners were, or still are, the more decisive social group, the fundamentalist system tends to enhance their importance or that of the groups most closely associated with them.

Argentina and Uruguay are interesting cases in point. There are many indications that energetic action is being taken to transmit an ideology and a system of values which tend to enhance the function of the rural society, which is deeply concerned with the past and the present—though more with the former than the latter—of the country as opposed to the town, of the rural inhabitants, of the wealth generated by the rural areas and of their role of leadership. The question is all the more symptomatic inasmuch as it occurs in societies where, for some considerable time, the population employed in the primary sector has been smaller than that engaged in services and even in industry itself. At first sight, this seems to be a neutral system of values, in that it merely enhances the role of the rural society as a whole and not that of specific groups within that society. The groups that are really organized to benefit from it, however, comprise the upper classes, although others may be opening a way for themselves or struggling desperately to do so.

In this respect, Bolivia is an exceptional case. The peasants' organizations there have acquired, consolidated and maintained a strong influence on the system of values to be transmitted through education, to say nothing of their influence on the institutional aspects of formal education.

As will be seen later in this study, an industrialist system of values, in its two versions—the entrepreneurial and the worker system—does not seem thus far to have seriously rivalled the fundamentalist model. This model tends to involve values relating to the function of culture for its own sake, a non-instrumental conception of education, etc. Hence the confusion regarding the "withdrawal" of certain high-level groups from the educational systems referred to elsewhere in this study. The "withdrawal" seems to bear less relation to the system of values than to more institutional and organizational issues connected with the management of educational systems or with access to them.

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[2] Anisio Teixeira, "Valores reales y profesados en política educativa" (ST/ECLA/Conf.10, [illegible].9), paper presented at the Conference on Education and Economic and Social Development in Latin America (Santiago, Chile, March 1962), organized by UNESCO and ECLA.

[3] Octavio Ianni, "Raça e classe", in *Educação e Ciencias Sociais*, No. 19 (Rio de Janeiro, January-April 1962), pp. 88-111.

4. THE TEACHERS' MODEL

It is obvious that an educational system requires teachers; that once they have acquired professional status and a certain minimum level of differentiation has been reached in the system, organizations will emerge to defend their interests; and that these organizations in their turn will tend to formulate some conception of the educational system and of the values it should transmit. This process has already taken place for primary school teachers in almost all the Latin American countries—more recently in some than in others—and is under way for secondary school and university teachers.

This phenomenon has resulted in a system of values which we shall call "humanist", put forward by the teachers themselves and competing to some extent with the fundamentalist model. The teachers' organizations—particularly those of the primary school teachers, who constitute a formidable pressure group in most Latin American countries—tend to bring pressure to bear to convert education into an institutional system with a certain amount of real autonomy, whatever the legal definitions may be, and this is conducive to a certain pluralism of values.

The more teachers are organized as a profession and the greater their ability to control the educational system, the greater the autonomy enjoyed by the humanist model seems to be, judged from the inside of the society in question. However, as the model has its origin in and is constantly infused with the aspirations and concepts of the countries of the centre, the French and North American models—to cite but two examples, which in these respects have much in common—are widely accepted among Latin American teachers. The replacement of some centres by others in these problems, which does not necessarily go hand in hand with or take place at the same time as the replacement of these centres in the economic sphere, means that the model is changing. These characteristics can—and often do—make the system of values adopted somewhat unreal, since existing social conditions are not the same as in the societies which gave birth to these value systems. But the very fact that the origin is foreign creates a different source of values, which is to some extent in open conflict with the fundamentalist model.

Although the model does not necessarily exclude setting a high value on patriotism, it generally implies a rejection of chauvinism and of certain forms of discrimination that run counter to the democratic ideology. It includes the idea of a truly human international society, in the double sense that it is based on respect for the fundamental rights of man, whatever his origin, and on the idea of an adventure common to all mankind, which also has its examples and heroes who tend to define the patterns of acceptable behaviour. Thus, inasmuch as the model corresponds to values that go far beyond the educational system but must be transmitted through it, its strongest countervalue is to some extent an internal one: the lack of educational opportunities.

There is a tendency to consider education, particularly at the primary level, as a good in itself, and to some extent as the sovereign good, and its absence as an evil. This explains why the humanist model is so closely linked with what Anisio Teixeira has called the magic concept of education. The essential question is the expansion of the educational system: everything which favours it is regarded as good and everything which delays it as a countervailing factor that must be combated. A position of this kind has two main effects.

On the one hand, it seems to have an undeniably positive influence in democratizing education. Teachers strive for this democratization, not only as a means of increasing their employment opportunities but also in the name of a system of values to which they sincerely subscribe. As teachers constitute a sizable pressure group and as their activities are consistent with the ideology professedly accepted by the State, it is almost inevitable that this should work in favour of democratization.

On the other hand, the nature of these effects is ambiguous. What is in fact being expanded is a system essentially formulated by certain social groups for their own benefit. To the extent that these groups were dominant in the past or still are today, and that their interests do not coincide with those of modernization and development, the system which is being expanded seems to be inadequate to fill the needs of the future society which is professedly desired. The professed value is education for its own sake, culture with a capital C, but the value really being pursued is escape from manual labour and everything connected with it. New groups gain access to the educational system as a result of this expansion, but only at the price of their acceptance of the prevailing systems of values.

This lends a new ambiguity to the effects of the process of expansion on democratization itself: the system of values prevailing in the school involves demands which are much more easily filled by the groups responsible for its formulation than by the new groups recently incorporated into the system. Hence, the prospects of success for these new groups are inevitably much more limited.

Phenomena of this kind have been and are found in all societies, but what seems to be characteristic of the Latin American countries is the difficulty encountered in creating a system of values which emphasizes the instrumental nature of education, whether or not this is its only feature. In this connexion, one important fact is very clear, although it is difficult to determine its causes. In almost all countries, the most representative groups and individuals who—about 1870 or in the first twenty years of this century, depending on the country—justified the need to expand education, particularly at the primary level, all had a strongly instrumental conception of its function. There were appeals to recognize the significance of education for its own sake, culture for culture's sake, but they were not more important than the idea of the contribution that education could make to the enrichment of the people, or in other words what today we would call development, to the effective participation of the people in the political process, and so on. It was not until later that there was a tendency to justify education as an end in itself, with the beginning of that curious process whereby any other kind of justification is seen as a way of diminishing the function of education and as a lack of understanding of its nature. This fact seems undeniable, whatever its cause, whether the difficulties of instituting the desired policy led teachers to place education above everything else, as the most instrumental way of obtaining some satisfaction of their demands, or whether there were other reasons.

The ambiguity of this system of values, or to put it in another way the clash between professed or declared and real values, can be seen very clearly in university education. In the university, when the barriers raised by a system of the kind described against the access or success of the weakest social groups have had sufficient effect, one is likely to find not a strongly humanist system as in England or the United States, but out-and-out professionalism. The fact that in practice the use the consumers make of the system attenuates its professionalism does not diminish the importance of this characteristic.

This conception of education conceals the fact that its real aim and its real values are concerned with guaranteeing a kind of automatic passage to the middle class through employment in the tertiary sector, or with maintaining the middle classes in their own strata by the same means. This way of looking at things explains the central importance of the role of secondary education. The primary school does not guarantee, or is increasingly less able to guarantee, escape from manual labour. Only a very few people have access to the university and in any event they must first pass through secondary school. Hence, secondary education is the keystone of the whole situation. It is the secondary school that provides the necessary passport to employment in the tertiary sector. It is not surprising, therefore, that whereas people everywhere have been forced to recognize the need to make primary education universal—although this is still a long way from being achieved—many social groups seek to maintain secondary education as their own preserve.

5. ASSUMPTIONS COMMON TO THE MODELS AND SCALES OF PRESTIGE

These observations explain how even the so-called "humanist" model has served as a vehicle for disseminating a basic assumption of the "fundamentalist" model: contempt for manual labour. The idea of education as an end in itself is undoubtedly an aristocratic idea: only those whose position in society is assured in another fashion can regard education not as a means of access to employment but as a form of cultivation of the mind which is its own justification.

Further light is shed on the question if we consider other systems of values which in theory conflict with the models discussed above and which are not in fact offered to the educational system, or at least only to a much smaller extent. It is possible to distinguish, as Dahlke does, between the market or entrepreneurial model and the workers' model, to the extent that they are incompatible with each other. But these models have certain basic assumptions in common which make it possible to combine them in a more general model applicable to all developed societies, or societies in which the commitment to development is the fundamental element of the ideal social design. This is the model that might be called "modern" or "industrialist" if the term is given a broad enough meaning, and is common to capitalist and socialist countries to the extent that they are committed to development.

This system of values starts from certain basic assumptions: (*a*) a very close relationship between education and occupation; (*b*) consequently, an extremely instrumental view of the significance of education; (*c*) an extremely high value set on science, more for its instrumental possibilities than for its own sake; (*d*) to a great extent, consequently, a very high value set on technology and the possibilities it affords of transforming the world. Interwoven with these basic common elements are innumerable variations and the circumstances in which the above-mentioned aspects are emphasized vary a great deal, but this does not prevent them from being apparent. Basically, all these nations attach a very high value to efficiency and rationality.

It can easily be shown that this system of values has very little force in Latin American education in relation to any one of the others already referred to. Although the link between education and occupation is becoming increasingly important in practice, two factors militate against the significance of this process. First, the purely symbolic value of education is so important to many social groups that it is quite common for the activities actually pursued to have no relation whatsoever to the educational qualifications obtained, however high these might be. For certain social groups, university degrees are still much more sought after because of the social prestige they bestow than because of the occupation to which they lead and which is often not pursued. Secondly, although this link between education and occupation is becoming increasingly important, it has not been effectively incorporated into the system of values, which continues to regard the view that education and employment are closely linked as damaging to education itself.

As for the value set on science and technology, everything points to the fact that it is very low and that the traditional view still links them with a materialist conception of the world.

Although the system of values and the occupational scale of prestige are not the same thing, the latter largely reflects the nature of the former, and the studies mentioned below tend to confirm the hypotheses formulated.

The research done by Hutchinson[4] on university students in São Paulo reveals that the distinction between manual and non-manual labour in the occupational hierarchy is much stronger than in the United Kingdom, despite the fact that the society in question is highly industrialized. A similar investigation by Castaldi[5] on a group of Italian immigrants occupying low social positions in São Paulo, using the same classification of occupations as Hutchinson, reveals that the hierarchy is practically the same. In other words, the spread of the same values and the same scales of prestige appears to be very wide, since very different groups accept them. Another study carried out in Montevideo [6] on the parents of secondary school children, the majority of whom were from the working classes or from the lowest social strata, reveals that they are hoping for a non-manual occupation for their children and, what is more important, that they reject technical intermediate education as an alternative they have either not even considered or thought of as a kind of penalty their children must pay for not being up to the standard of the traditional *bachillerato*. What is more, they view the success or failure of their children in strictly individual terms, despite the fact that the school in question has the highest failure rate in Montevideo. The few who reach the senior classes are held up as an example to show that success is possible even for manual workers' children and that those who failed did so because of their lack of application or intelligence. At no time did they appear to suspect that the socialization of their children had placed them at a disadvantage in a system dominated by the standards and skills most valued by the middle classes.

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[4] Bertram Hutchinson, "Hierarquía de prestigio das ocupações segundo os estudantes universitarios", in *Educacão e Ciencias Sociais*, No. 2 (Rio de Janeiro, August 1956), pp. 29-41.

[5] Carlo Castaldi, "Nota sobre a hierarquía de prestigio das ocupações, segundo um grupo de emigrantes italianos e seus descendentes na cidade de São Paulo", in *Educacão e Ciencias Sociais*, No. 2 (Rio de Janiero, August 1956), pp. 43-62.

At the secondary school level, such values are inevitably adopted by the students. Brandão Lopes, [7] in his study on the pupils of the day secondary schools in São Paulo, shows that more than 60 per cent choose occupations in medicine, law and engineering, and almost 20 per cent in other liberal professions. It should, in addition, be emphasized that the survey reveals that the traditional idea of secondary education as a preparation for the university still persists, despite the fact that for many this idea has no practical application. Only 10 per cent of the students named occupations that do not require a university training when asked what ideally they would like to be, and only 15.4 per cent did so when asked what their likely occupation would be. In both cases, more than 80 per cent thought of secondary education as a preparation for the university.

Some studies appear to indicate that foreigners and their children have a rather different view, although this does not come out in the above-mentioned study by Castaldi. One study of secondary students in Montevideo shows that the scholastic performance of the children of foreign parents is better than that of nationals living in similar socio-economic and socio-cultural conditions. According to Hutchinson, the proportion of those who take the traditional courses at the university declines in direct ratio to the increase in students with foreign backgrounds. It is interesting to note that the reverse also occurs: a drop in the number of students with foreign backgrounds leads to a distribution of the students which is closer to the national norm. This seems to indicate that there is a Latin American process of socialization that encourages students to take up careers which traditionally have the highest prestige.

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[6] Germán Rama, *Grupos sociales y enseñanza secundaria* (Montevideo, Editorial Arca, 1965).

[7] Juares Rubens Brandão Lopes, "Escolha ocupacional e origem social de gimnasianos em São Paulo", in *Educacão e Ciencias Sociais*, No. 3 (Rio de Janeiro, December 1956), pp. 109-124.

Other studies could be mentioned in addition, but the general picture would remain much the same. Clearly in view of the small number of such studies and the lack of systematic comparative studies, great caution must be exercised in drawing general conclusions from the results. However, since most of them relate—and have been chosen as examples for this reason—to societies that can be considered highly modernized on the basis of the indicators in use, and to a Brazilian state such as that of São Paulo which is in one of the most industrialized regions in Latin America, there are sound reasons for formulating the hypothesis that the present system of values is so powerful that it determines an occupational hierarchy which profoundly affects the choice of university studies and which influences the whole academic history of the pupil since it is inculcated during the first stages of his socialization.

6. SYSTEMS OF VALUES AND STRATIFICATION

So far we have considered the systems of values offered in the society as a whole, the extent to which they compete when the access to power of the groups supporting these systems enables them to attempt to inculcate them through the schools, and the extent to which the systems have common assumptions prejudicial to development. It is fairly clear that the question of values is closely related to social stratification, as is indicated by the sharp distinction made between manual and non-manual labour, which appears to be common to and to carry equal weight in all the models.

More important is the fact that the value systems attempt to use formal education to legitimize the different roles assigned to the various groups in accordance with their position on the social scale. There are two main ways in which this is done, although there may well be others.

Firstly, there is the process of assimilation. When, as is the case with primary education, the value system has to be more or less universal, it basically reflects the aspirations of the middle classes and implies the socialization, in terms of those values, of pupils from the lower classes. The school tends to produce, by the most varied means, a veritable social "conversion" to the dominant values. It is not therefore surprising that, as is indicated in a number of studies,[8] lower-class children regard their teachers as models to a much greater extent than do children from backgrounds where the main point of reference is their own parents. The teacher is the actual, physical model, within reach of the lower-class pupils, who embodies the ideals of the middle classes and reflects their behaviour patterns. This process continues throughout the whole system; the few who remain at the end have basically adopted the dominant values and behaviour patterns and, as in Orwell's nightmare Utopia, it is impossible to tell which are which.

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[8] Adolfo Gurrieri, "Situación y perspectivas de la juventud en una población urbana popular" (E/LACCY/BP/L.2), document presented to the Latin American Conference on Children and Youth in National Development (Santiago, Chile, 28 November-11 December 1965).

However, as this process cannot reach more than a minority, particularly at the highest levels of education, it is accompanied by a second mechanism: the transmission of different sets of values which attempt to strengthen and legitimize, within the educational system, the distinction between different orientations which lead to employment opportunities in occupations of widely varying prestige. This is one of the aspects in which the distance between the professed or declared and the real values is greatest in Latin America. When the pupil completes his studies at certain levels, generally the primary education level, there are two or more possibilities with very different rankings so far as prestige is concerned. The short courses, which are a preparation for manual labour, are lowest on the scale, as they are everywhere. They are in fact designed to continue the training of the majority of the lower-class children who have reached this level. As this situation is in direct conflict with the democratic values professedly accepted, it is generally justified on the grounds of necessity, whether it is the need of the children from certain strata to gain quick access to the labour market, or society's need for skilled labour. It is easy to see that there is no real substance in this justification. Any attempt to open up real employment opportunities would entail the possibility of continuing the studies or periods of practical training even outside the formal education system; and any attempt to improve the training of highly skilled personnel would make this even more necessary. In almost all Latin American countries these courses are terminal: they do not open up any possibility of returning to traditional secondary education or of entering the university or a technological institution, nor are they accompanied or extended by any non-formal training. In other words, they close all institutional doors to an effective process of social mobility. In actual fact, although it is never officially admitted since it is contrary to the professed ideology, this type of education is for certain social classes and is designed to keep them at their present low levels on the social scale.

The roles assigned to the different social groups and the values which sanction these roles give rise to a process which is paralleled by the influence wielded by trade union organizations over the system of values transmitted through the school system—which is little or none. The system of values linked with the system of stratification tends to perpetuate this stratification. What is more, the undeniable transformations that have taken place in the stratification system have not been accompanied by a parallel transformation in the system of values transmitted by education. The notorious conservatism of educational institutions means that such institutions, instead of helping to transform the present system of values, tend to perpetuate it beyond the life of the stratification system from which it sprang.

7. Value attributed to education

The few studies that have been made in Latin America agree on certain fundamental assumptions: (*a*) the prestige value of education provided by the formal system is very high; (*b*) the level of educational aspirations is likewise extremely high; (*c*) all social groups are of the same opinion on these points; and (*d*) young people hold the same views as their parents on both.

In Chile, where several studies have been made comparing migrants that have become absorbed into the population of Greater Santiago with migrants in the marginal population, it has been found that the latter have much lower aspirations.[9] What is much more surprising is the fact that 34 per cent of the marginal population would like their children to have a university education, although many of them are aware that their ambitions are unrealistic. This study is conerned with the parents, but others that deal with young people[10] show that their value judgments differ very little from those of their parents.

Although it may be asked how far the samples used were truly representative or whether they did effectively raise questions that may not have been consciously formulated before they were answered, there seems to be no doubt that all social groups place an extremely high value on education. This is borne out by the fact that, up to now, demands for education have been more forceful and effective than demands for other social services.

It is less easy to find out what aspects of education are of most importance to the different social groups, since research on the subject has been fragmentary and its findings are not generally applicable. Some studies suggest that the lowest strata have a much more instrumental view of the educational system—in the limited sense that it is closely connected with the job opportunities—and lower over-all aspirations. This is characteristic of a value system that acts as a self-imposed barrier, and corroborates Hyman's hypothesis regarding the lower classes in the United States.[11] This barrier is not apparent at the level of aspirations, which are very high. It appears instead in the people's awareness of whether or not they can fulfil their aspirations. The poorest groups probably have a more functional view of education because they feel that this is what differentiates them essentially from the higher strata, a distinction which is subsequently translated into terms of income. Another possibility, which need not exclude the first, concerns the importance attached to personal relationships as a means of social mobility. If all other conditions are equal, it must be assumed that the greater the reliance placed on personal relations, the less will education be regarded as an instrument for providing access to employment. As the lower strata usually have no influential friends, the only way for them to rise in the social scale is to join the clientele of some important political figure or relative, or to progress through the medium of the educational system. This may explain the seemingly paradoxical fact recorded in certain studies[12] that the children of manual workers who have dropped out of secondary education stay longer at school than the children of white-collar workers who were also school dropouts. The latter have established some sort of personal connections through which they can hope to place their children in an occupation which just escapes the stigma of manual labour, while the former have to rely on education alone.

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[9] Guillermo Briones and F. B. Waisanen, "Aspiraciones educacionales, modernización e integración urbana", in *Economía*, Facultad de Ciencias Económicas, Universidad de Chile, year XXIV, No. 92 (Santiago, Chile, 1966), pp. 3-20.

[10] A. Gurrieri, op. cit.

[11] H. H. Hyman, "The value system of different classes", in *Class, Status and Power*, R. Bendix and S. M. Lipset, eds. (Glencoe, Ill.: Free Press, 1953), pp. 26-27.

[12] Antonio M. Grompone, Aldo E. Solari, Elida Tuana and Germán Rama, "Los estudiantes liceales de Montevideo" (unpublished survey).

The middle classes attribute great importance to the symbolic and prestige values of education, partly because it is not their only avenue to the occupational system. There is every indication that the few persons from the lower strata who succeed in climbing up the educational pyramid are increasingly zealous in adopting the values of the middle classes, including their conception of education, as they ascend. In other words, regardless of whether or not the lower income groups' view of education is genuinely instrumental, they apparently undergo a rapid change of heart upon experiencing the socializing influence of school. What education represents for them is above all a means of escape from the group to which they belong.

8. OBSTACLES TO CHANGE AND PREVAILING TRENDS

Whatever the importance attached to the influence of the value system, other factors are involved, especially the real opportunities offered by the labour market. The value system and the system of occupational opportunities reinforce each other to some extent, but the former is not static. When certain factors increase the possibilities opened up by particular branches of study, they also enhance the prestige of these branches. Thus, engineering enjoys great prestige in São Paulo, and the so-called professions associated with accounting have won a similar place for themselves in nearly all the Latin American countries during the last few years.

These two examples are taken from countries where neither the economy nor the distribution of university students is carefully planned. The situation is clearer where there is a planned economy and a revolutionary system involving a radical change in the value system. Cuba is a case in point. Between 1959 and 1963 the composition of enrolment changed entirely. Two examples will make this clear: the proportion of law enrolments dropped from 12 to 2 per cent and engineering admissions rose from 3 to 15 per cent. "The revolutionary government has treated education as the key to a complete reconstruction of society. Their educational programme is designed not merely to raise the skills and abilities of individuals but to create a new system of national goals and values. In economic terms, this is an attempt to use education to alter the institutional framework of the economy and to make the new institutions workable by affecting individual attitudes and incentives." [13]

Here, then, the metamorphosis of the value system, the affirmation of the instrumental nature of education, and the importance ascribed to science and technology go hand in hand with a plan for structural reform to make proper use of the abilities developed by the educational system.

As a result, the relationship between the occupational structure and the value system is very fluid and dynamic in the various types of society.

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[13] Richard Jolly, "Education: the pre-revolutionary background", in *Cuba: The economic and social revolution*, Dudley Seers, ed. (Chapel Hill, University of North Carolina Press, 1964), p. 162.

The fact that a claim can be made out for the supremacy of both the value system and the system of occupational opportunities explains the widely divergent positions adopted. In the present state of knowledge on the subject, it might be wiser to stick to the assumption that both sets of factors are mutually interacting, as will be any changes that take place in them. The essential thing is not to have an oversimplified view of the matter.

Special attention should be paid to two supplementary questions that can be regarded as germane to the theoretical pattern outlined in that they help to round it off and to explain some of the characteristics of education in Latin America. First, it seems clear that the possibilities of transforming the traditional value system and the cognitive pattern that it embodies vary at different levels. It is easier, for example, to increase the number of engineers when employment opportunities expand than to swell the numbers of pure research scientists. In the former case, the techniques to be learnt, although demanding, do not involve any process of scientific invention, which is an imperative in the latter case. In Latin America, everything goes to show that the process of socialization itself is unfavourable to science, or, to put it another way, what Schelsky calls the pre-formation of life by science is only just beginning. The limitations of the universities as a training-ground for the scientific way of thought are causing widespread concern, and will be dealt with in more detail later. But the same can also be said of secondary education and even of primary schooling. The sciences are a very unimportant part of secondary school curricula, to judge by the number of hours theoretically devoted to them. And the situation is far worse as regards the teaching of scientific methods of work and thought. The problem is that the process of socialization itself exalts cognitive values and patterns that have little or no relation to science. Hence, even if more opportunities are made available for following a scientific course of studies, virtually no interest is shown in them.

The orientation of the courses of study seems to be partly the outcome of a value system that is deeply rooted in Latin America. The question will be discussed here on the basis of a comparison with developed societies. In Latin America there is, of course, some tendency to adopt a more "modern" value system and the situation is not the same in every country, but, comparatively speaking, there are just as broad differences between Latin America and the United States as between Latin America and the Soviet Union or mainland China. The complex of "*arielismo*" which has so often been imputed to Latin America brings with it a reaction against the values of an industrial society, precisely for the sake of differing from the United States. The idea that Latin Americans are notable for the importance they attach to spiritual values is not only hard to substantiate in terms of real values, although it has been abundantly illustrated in their professed values, it implies a superiority which is flatly contradicted by the facts.

"*Arielismo*", which is more generalized and complex than the concept developed by Rodó, forms part of a much broader process that is still going on. In the industrialized countries, a number of thinkers have warned society to guard itself against a take-over by science and an unduly functional or materialisitc view of life, and have advocated a revision and a reaffirmation of certain traditional humanistic values and their integration in a new form of humanism. The dangers are by no means imaginary, and it is necessary to restate the humanistic view of life and give it what may well be its true value. Instead of being rejected, science and technology will play an important role in this concept, and their integration with its other elements is characteristic of what is known as modern humanism. In fact, this way of thought attaches far more importance to science than it is usually given in the value systems that permeate Latin American education.

The customary reactions in Latin America against a functional, scientific and technical conception of society are based on the arguments presented here, and completely overlook the fact that the real threat does not come from the invasion of science and technology and the prevalence of an instrumental approach, but from the predominance of the opposite points of view. In any case, these reactions treat as an emergency a problem that will not loom up for Latin America for some time to come, and thus make for the preservation of the existing value system, although it may present itself in different guises.

As changes are nevertheless inevitable, certain groups are tending to develop a more modern educational system in private universities, technological institutes and so forth, aided by other factors such as the permanent unrest in the State universities. The phenomenon is that of "withdrawal" and it has been mentioned elsewhere in this study. The creation of new institutions involves an effort, and largely derives from the acceptance of a new value system based on an accurate or mistaken perception by all the Latin American countries of the values that prevail in developed societies, and—except in the case of Cuba—more particularly those of the United States.

It should be noted that the value system involved and the concepts which it inspires contain elements that are of doubtful practical value for the situation in Latin America today. To give just one example, it is rather ingenuous to believe that an education inspired by a sort of Schumpeterian ideal of the *entrepreneur* will be successful in producing modern *entrepreneurs* under entirely different structural conditions and regardless of the part that that type of *entrepreneur* may really have played in the developed countries.

What is far more important is the fact that, however that may be, these attempts to introduce a new value system are sponsored by certain groups which look upon this as a way of distinguishing themselves from the rest of society through education. Such activities do not form part of the national design, but are rather the outward manifestations of the needs felt by particular groups. Although the groups which promoted primary schooling at the end of the last century and in the early years of this one were pursuing a plan of their own, they also merged it to a certain extent with the national concept of the educational system, whatever limitations it may have had.

Even more serious is the fact that these new competitors have merely increased the already somewhat chaotic discontinuity of the value system offered by the State, ideological factions, religious groups, teachers and the traditionalists, each of which is struggling to impose its own system.

There seems to have been no real integration of their views, except on a very modest scale, and intermingled with all the other value systems is that of the consumers, in other words, of the students and, above all, their parents. The content of education matters far less to them than their possibility of access to it and the status it confers. Any system of values is acceptable provided that the institutions that adopt it are of sufficiently high standing.

The situation is further complicated by the gap between real and professed values, which seems to be much wider in Latin America than elsewhere, and tends to be widened by the situation in the region. At the level of professed values, certain very general images are regarded as incontrovertible. Everyone supports the ideal of education for the masses; everyone believes that education should give extensive and widespread opportunities for social mobility and that it should be used as the fundamental tool of change. No groups will be found in Latin America, as they once were in Europe, publicly opposing education for the poor or arguing that they should be educated just enough to maintain the structure of society and to accept their lot with resignation. These notions are in open conflict with the democratic values professed by everyone. In actual fact, however, as has repeatedly been shown, the groups that are the worst off go to the least satisfactory schools which, by their very nature, can lead only to the same kind of employment or unemployment as at present and offer no real possibility of rising in the social scale. Therefore, every effort is made in practice to preserve the existing stratification by the most effective means available, which, because of the need to pay lip-service to an entirely different system of values, must be carefully disguised. Certain changes undoubtedly take place, some of which actually take advantage of the split between real and professed values, but they are plainly inadequate for development purposes.

Just when it is more than ever necessary to have a truly national policy of education linked to an over-all plan for using the nation's resources, new value systems are being created through separate projects which, however sound they may be, are mutually incompatible. It is hard to believe that this is the way to integrate the value systems that compete for supremacy in education, and little is to be expected of planning in itself unless a system of values can be evolved that is really suited to the needs of the time and to the special conditions prevailing in Latin America.

Chapter V

THE UNIVERSITY IN LATIN AMERICA AND DEVELOPMENT PROBLEMS

A. General considerations

1. The university and higher education

The present study is concerned almost exclusively with the universities and not with higher education in general. This is not for theoretical reasons but because the universities have always had a monopoly or a virtual monopoly of higher education in Latin America. It is estimated that in 1959 the universities absorbed 90.2 per cent of the total number of students enrolled for advanced studies, while the higher technical institutes took 2.4 per cent and the teacher-training colleges 7.4 per cent. [1] In these calculations the teacher-training schools are assumed to be at the higher level, although this is seldom true in practice. If they are omitted, the universities would account for an even more overwhelming proportion. In Europe in that same year the students were almost equally divided between the universities and the technical institutes, with the latter accounting for 47 per cent of the total enrolment for higher education. There is no basis of comparison with the situation in the United States, on the other hand, since it is the universities themselves which provide all types of higher education. This is very rare in Latin America.

What are termed the higher technical institutes have sprung from widely different roots, and there is a whole body of literature on how to distinguish them from universities. For some, the distinction simply consists in their difference of origin, and the fact that there is a greater concentration of technical institutes in certain specialized branches of knowledge. For others, it is a more fundamental distinction, which is reflected both in teaching and research. In teaching, the aim of the technical institutes is to furnish as much information as possible that will be of practical use in professional life; the main concern of the universities, on the other hand, is to use information as a tool to provide the best possible training with a view to the acquisition of knowledge. In research, the universities are primarily concerned with pure research, whereas technical institutions are slanted towards applied research. [2] Between these two extremes, there are many positions which are tenable in theory and it is hardly likely that many technical schools would agree that they are mainly concerned with practical teaching and applied research. If the different cycles of study in the universities and the different concepts of training and instruction which are applied in them are taken into account as well, it is obvious that the problem is even more complex.

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[1] F. H. Bowles, *Access to higher education* (UNESCO and the International Association of Universities, 1963), vol. I, p. 113.

[2] A recent exposé of this question can be found in "Le statut et la situation de l'enseignant-chercheur", submitted by Marcel Homes, Rector of Brussels University, to the Third International Symposium of the Association des universités entièrement ou partiellement de langue française (AUPELF) (Montreal, 5-15 May 1967).

Hence, although the line of reasoning followed here is based on the *de facto* situation described above, this is no justification for discounting the other forms of higher education. This is all the more important in that the shortcomings of the Latin American universities are bringing technical and similar institutions increasingly to the fore as an alternative solution. In fact, unless there is a radical change in the universities, there will probably be a considerable shift in the distribution of enrolment for higher education in Latin America in the not too distant future.

The university does not monopolize the function of research nor does it exercise a decisive influence over research activities. It is well known that no research is done in certain universities, etiher because none is done in the country as a whole or because it is being done by other institutions.

At present, the idea that is most widely accepted is that the functions of teaching and research are indivisible, but they are carried on with others that will be discussed later. This concept is valid for a certain kind of university only, but its basic principles are gaining ground throughout the world and are particularly meaningful for Latin America.

2. THE CRISIS OF THE UNIVERSITIES

In the light of this quite substantial agreement on the vital importance of teaching and research, the crisis through which the universities are passing stands out, perhaps, more clearly. The fact that books, articles, documents, and meetings of national and international organizations all testify to this is the best indication of how profound the crisis really is. This is no new development; whenever an educational system tends to be accepted almost unquestioningly, and other possibilities are consequently disregarded, there is no educational thinking in the highest sense of the term, or even in support of the existing system. The opposite is true, however, when the existing educational institutions are shown to be inadequate in the face of various social factors.

Some writers seem to think that the crisis is confined to the Latin American universities, and that there is an archetype that need only be imitated to be translated into fact. But the crisis is world-wide, although its causes and outward manifestations differ. Moreover, despite the efforts to do so, the United States universities can hardly be held up as a model in view of the problems that have been plaguing them in recent years, [3] quite apart from other reasons.

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[3] There is an extensive bibliography on this subject. On the more novel aspects of the problem in the United States, see Seymour M. Lipset and Sheldon S. Wolin, eds., *The Berkeley Student Revolt* (New York, Doubleday, 1965) and Hal Draper, *Berkeley: The New Student Revolt* (New York, Grove Press, 1965).

These reflections raise two loosely linked questions. First, even assuming the crisis to be universal, it is important to ascertain whether its underlying causes are the same in different types of society, and whether there is one crisis, or several that may happen to coincide. The second question is the transplantation of the models used in developed societies to underdeveloped countries.

In order to analyse the university problem in Latin America it is less important to determine whether there is one crisis or several occurring simultaneously than to understand the system and to grasp the critical problems that it poses for development. With the aid of a sound analysis of the situation in Latin America, the shortcomings of the universities and of the social and cultural environment, it can be decided to what extent, if any, the models available merit imitation, whatever their origin, and how far they represent temptations to be avoided. It is equally irrational either to accept or to reject a model merely because it is taken from a foreign country. The only methodological principle that can safely be followed is that a particular kind of university functioning in an entirely different social and cultural environment cannot be used as a model until it has been radically modified; in other words, it should simply be taken as a guide in studying the problems of the Latin American universities. However, as some of the requirements to be met by higher education are the same in all industrialized countries it is highly probable that the requirements are analogous also in the countries which are striving to attain that level. The means of satisfying such demands may, and indeed do, differ, but the demands themselves cannot be brushed aside without assuming that there is a type of industrial society that has no need of efficiency, rationality, etc. To develop an industrial society, the only kind of university that will be useful is one that will help to bring such a society into being and then to consolidate it.

Hence, if the Latin American universities are incapable of meeting development needs, they will have to be transformed sooner or later. The way in which this is done will depend mainly on the ability of the leaders to create and develop a new type of university in keeping with the country's requirements. If they lack the necessary ability, the need for change will be no less pressing but the process may be delayed. Instead, foreign models will be appropriated and adapted *ex post facto*, at heavy cost, to the conditions in which they must operate. This may also be achieved at less cost provided that the plans for university reforms are inspired by a thorough understanding of the nature of the universities of the society of Latin America—an important condition in countries that have few resources and must therefore do their best to avoid fruitless experiments.

3. THE CRUCIAL ROLE OF THE LATIN AMERICAN UNIVERSITY

In the nineteenth century, the university was the only, or virtually the only, centre in the region which provided training at a relatively high level and disseminated thought and culture. The university has now lost its commanding position in a number of countries but retains it in others, and even in the former still plays an extremely important part. This is easily appreciated if the innumerable non-university institutions devoted to higher education in the advanced countries are compared with the tiny number of poorly endowed institutions in Latin America.

The situation is somewhat the same in scientific research. Since the beginning of this century there has been a great burst of research work in the developed countries, inspired by the universities, the big private firms and the State. In Latin America, however, the assistance to research which can be expected from the major non-governmental economic units is small or negligible, either now or in the foreseeable future, to say nothing of any other disadvantages it might have. In the first place, there are few firms that are large enough to be able to set aside significant sums for research. And, of that handful, the majority are subsidiaries of bigger foreign companies which, for reasons of cost alone, prefer to do their research work outside Latin America. Lastly, the idea of helping to finance research that is not intended to produce immediate results is totally alien to the private *entrepreneur* in Latin America.

This leaves only the universities and the State as possible sponsors of research. The idea that the universities should sponsor research is not, of course, of long standing in the region, but the concept of the State as sponsor is even newer. Moreover, when the State undertakes to promote scientific research, it is compelled by the universities' virtual or complete monopoly of academic training, to employ university graduates, often during the time they have to spare from their university work, or as a means of promoting research within the university itself. Given that, whatever the structural shortcomings of the universities as centres for research, they are no doubt less than those of the State itself, there is every reason to expect that the universities will continue to play a leading role in research, irrespective of whether or not they may offer better guarantees of neutrality and freedom for scientific work than the State. The role of the State in directly promoting scientific research will no doubt become more important, and is, in fact, already growing in several Latin American countries. Moreover, it may continue to expand unless the universities are remodelled so as to give due attention to research work. But, even so, it is probable that the universities have a much more important part to play than in the developed countries.

Their role may also be rather different. Reference has already been made to the distinction between pure research and technical or applied research. In the developed countries, there is justification for the belief that only theoretical research of a strictly scientific nature should be undertaken in the universities, while the different levels of applied research should be reserved for the technical institutes. It should be borne in mind that the latter institutions are practically non-existent in Latin America, and that it is urgently necessary to find means of applying the technologies created for other countries and to devise new ones. In view of this, the universities can hardly be restricted to certain types of research that would require a special infra-structure that does not exist in the region. The priorities that must necessarily be established in research because of the shortage of funds are decided on essentially pragmatic grounds in which the major development needs of the different countries are also taken into account.

In order to give due importance and weight to the functions and transformation of the Latin American universities, there is no need to follow Atcon in his obviously exaggerated claim that "the clan of university degree holders dominates every significant phase of social life," [4] or to believe that changes in the university will inevitably be followed by changes in society. In Latin America there are virtually none of the functional equivalents of the universities that can be found in the developed countries.

Development is largely the result of the transformation of social life by science and technology, the latter being, in the final analysis, applied science. One of the best indicators of development is undoubtedly the extent to which science has permeated social life, that is, the progress made by the process that Schelsky has called the pre-formation of life by science. But both science and technology need devotees to create and apply them. A complex corps of professionals must therefore be trained at various levels, and this is mainly, although not entirely, the task of the universities. It is not only the training of senior professional personnel that matters however; a due proportion must be observed between the senior and the other levels. The training of intermediate-level personnel is again largely the responsibility of the universities. As an industrial society is built up on certain standards of performance and efficiency, it needs intelligent personnel who are selected for training by methods which are both strictly impartial and designed to ensure that the most will be made of the intellectual capacity available in the society.

It has often been pointed out that, in what is generally called the Western world, the university exemplifies an institution that combines a singular continuity of purpose with a relatively high degree of flexibility in adjusting to changing circumstances. The universities of the twentieth century are very different from those of the thirteenth, for example, but they are nevertheless recognizably related. The host of demands made on the university in modern society are simply a new challenge to their proven powers of adaptation.

This challenge is much more serious in Latin America because of the nature of the universities themselves. On the one hand, they are expected to undergo far more radical changes than would be necessary in the highly developed countries, where the process of adaptation has been much slower. Here, as in other spheres, there is a wider gap between the established institutions and the requirements of modern life and a much greater need for rapid change. In the developed countries, the universities either played virtually no part in the start of the industrial revolution as, in the United Kingdom, or adapted themselves to a relatively low level of scientific and technological development and complexity. Once the new developments had been assimilated at no great cost, the universities were to contribute to the advancement of science and technology. In Latin America, on the other hand, where the universities have usually been set up on the Napoleonic model with little place for scientific research, they have to absorb an extremely high and complex level of science and technology before they can branch out into original research. At the same time, they have to adapt a technologyevolved for other conditions to the situation in Latin America.

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[4] Rudolph Atcon, "The Latin American university", in *Die Deutsche Universitätzeitung*, No. 2/1962 (Frankfurt-am-Main, February 1962), p. 13.

In all these tasks, the shortage of trained personnel is no more of a handicap to the universities than their own unsuitable structure. And the demands made on them are so pressing that changes are urgently required. Unless the universities are capable of accepting the changes necessitated by development, their very existence is threatened. Their functional equivalents will, in that case, not be slow to step forward and take over the task of the universities, however undesirable such substitutes may be from certain points of view.

B. The distribution of the universities in Latin America

1. General features

A comprehensive list of the universities in the region would show that the number of university institutions does not present any special problem, since those that already exist are more than capable of meeting requirements. There is an enormous range of variation from countries that have only one university to those that have forty or more. What is most surprising, however, is that their numbers are not proportionate to the population, that is, to predictable future requirements. Nor are they proportionate to total university enrolment, since some of the universities have the highest enrolment in the world (e.g., the University of Buenos Aires, with 80,000 students), while others do not have more than 500 students.

In Latin America there are, therefore, universities that are overcrowded and undoubtedly have far more than the maximum number of students permissible for efficient operation, side by side with others that fall well below the minimum level of enrolment, with particularly high costs and an extremely low performance. The situation is further complicated by serious problems of regional distribution in each country and by the tendency to concentrate the universities in the capitals or big towns.

Part B will be concerned with two major issues: the regional distribution of the universities, and their internal distribution in the different countries.

2. The integration of the Latin American universities

Whatever system of financing it may have, a modern university is extremely costly. If it is to be even reasonably active in promoting scientific and technical research, its resources must be all the greater. In fact, the funds required for certain kinds of research are beyond the reach of most of the Latin American countries, even if all the money available went to the universities, and would be even if the universities confined themselves to promoting the necessary branches of research on a rational and planned basis. The result is that either no research is done at all on certain subjects, or that the efforts made with the meagre resources available fall far short of the country's requirements.

The region as a whole has an appreciable body of resources at its command which could be considerably expanded. Unfortunately, these resources are divided up among so many units that nearly all of them operate with less than acceptable efficiency and are therefore of no use to the country or, *a fortiori*, to the region in general. Almost all the arguments in favour of integration can also be applied to university education, where it is clearly just as badly needed as in the purely economic sphere. The fact that 800,000 students are crammed into about 200 universities is proof of this.

Although people are still aware of this problem and recognize that a concerted attack should be made on it in each country, little has been achieved so far. The Union of Latin American Universities does not rule out this type of action, but it is primarily a forum for discussing academic matters in terms of the region as a whole. Its work, though valuable, has no specific connexion with the theme of this study. Other piecemeal efforts have been made, notably by the Regional Inter-University Council, which comprised the Universities of Buenos Aires, Montevideo and Chile. It aimed at the establishment of special summer schools in each university, to be attended by teaching staff and students from the other two (on fellowships); exchanges of teaching staff; and even more ambitious undertakings, such as the joint sponsorship of certain lines of research. The first idea was the only one to be translated into a plan, and the Council was more influential and active in its early days than later. The summer schools are now planned independently by each university, as are the invitations to university staff from other countries. The exchange of students and teachers on the basis of fellowships is the only activity to be maintained in common.

The most important and successful venture so far has been the Central American Higher University Council (CSUCA). This is a regional organization recently extended to Panama, which comprises the State universities of all the Central American countries. It was founded in the belief that it is difficult or impossible for each of the universities to maintain a satisfactory research institute, and that they have a number of common problems which could be more easily solved by a regional body and, above all, by a more exhaustive study of the situation. CSUCA has therefore established regional institutes and has requested a number of studies on university problems, which have been undertaken by Latin Americans, at times with the aid of international organizations or private foundations. Most of the members of CSUCA are in favour of what are termed *general studies*, with the result that all the Central American universities are markedly alike. A great deal has been done to promote research, although it is still badly in need of development on a regional scale. However, the basic institutions have been established, and apparently all that remains to be done to achieve successful results is to make the integration machinery more flexible and put it into full working order. CSUCA's work is an example of what can be done to break down national barriers in university education, but it also testifies to the difficulties of the task. It seems paradoxical that the more the Central American universities progress, the greater should be the difficulties they have to contend with. Whether because each one now feels more capable of satisfying its requirements or because integration has not lived up to their expectations, the fact is that there are more problems to be grappled with now than in the early years.

CSUCA's moderate success and the relative failure of the Regional Inter-University Council suggest that one way of effectively achieving regional integration would be to form university associations among countries that have a wider range of problems in common for eventual amalgamation with a larger regional organization.

Whatever the difficulties in the way of a plan of this kind, it is vitally necessary. As the Latin American universities have been slow to respond to this need, other organizations have had to bridge the major gaps by organizing a host of extra-mural courses of study for training high-level personnel. A few examples that spring to mind are the courses offered by the Latin American Institute for Economic and Social Planning, the Latin American Faculty of Social Sciences (FLACSO) and the former Advanced School of Public Administration for Central America, now the Central American Institute of Public Administration. These courses usually have many more applicants than vacancies—which shows that their importance is fully appreciated—and, thanks to the combined efforts of experts from different countries, are able to provide specialized training, or courses of study at a higher level than those offered by the local universities. Had the universities agreed to pool their efforts, they could obviously have provided such training. Not only have they failed to assume this responsibility; they have not even adopted a clear and consistent position vis-à-vis courses of that kind, as regards either the facilities to be given to the students or the formal status to be accorded to the courses as part of the curricula for students and teachers.

The Latin American universities can be integrated at various levels. Some of the many possibilities open to consideration are: (*a*) the establishment of an acceptable system of equivalence for degrees; and, (*b*) a study of the curricula and syllabuses, and even the subject-matter taught, in terms of their contribution to the formation of an intellectual community in Latin America and the removal of some of the main obstacles impeding its emergence.

The disciplines that offer a suitable field for integration are those in which national differences are unimportant (e.g., physics, mathematics, and even medicine to some extent). In these cases, the possibilities and needs of integration will depend relatively little on the volume of national demand and much more on considerations of cost and the possibilities of higher training. Again, there is a certain kind of professional training that is genuinely needed but on so small a scale that the cost of providing it individually in each country would be prohibitive. National universities could devote themselves to providing the kind of professional training for which there is a sizable and highly specific demand in the country. The creation of regional sub-centres might also be contemplated for professions with problems that are common to a number of countries.

There are two main paths open to research. On the one hand, research institutes can be kept up and research workers trained in the more costly branches of science and technology. On the other, institutes might be established and research workers trained in fields that are of interest to the region as a whole.

In recent years, special concern has been aroused by the "brain drain" of scientists and technical experts. Although not yet as great in Latin America as in other parts of the world, it seems to be increasing. One reason for this, though not the only one, is study abroad. It has been suggested that the developed countries should set up research institutes in the developing countries to ward off this and other dangers, but, apart from being impractical, this would not solve all the problems posed by the integration of the Latin American universities in either professional training or research.

3. THE DISTRIBUTION AND CO-ORDINATION OF THE UNIVERSITIES IN INDIVIDUAL COUNTRIES

The arguments in favour of the regional integration of the universities may seem rather irrelevant in view of the fact that the main concern for many of the Latin American countries is how to integrate and co-ordinate their universities on a national scale.

Many of those countries, as explained before, have a large number of universities, some State-supported and others private. For political and social reasons, the private universities are regarded as being equal in status to the State universities. To quote some examples that are representative of nearly every Latin American country, in 1964 Peru had twenty-four universities (eighteen State-owned and six private) with a total enrolment of just over 50,000 students, that is, an average of slightly more than 2,000 per institution. This is well below the minimum working figure for a university. The problem of internal distribution is even more acute. The six private universities have a little over 2,200 students in all, which gives an average of fewer than 400 students for each one. Although these universities do not give complete coverage but have one or just a few schools, and some are still in their infancy, their costs are enormous and their chances of finding good staff extremely small. The proliferation of the universities, which continued after 1964 (there were twenty-eight by 1965) does not date back very far. Twenty have been established since 1960, and the number of private universities also began to increase after 1962. All this took place without the slightest attempt at co-ordination or regard for national requirements.

The document from which this information has been taken makes a cogent résumé of the problems that are to be met with in Peru and many other Latin American countries in a similar position: "The rapid growth of enrolment is due to two factors in particular: first, the increasing number of students completing their secondary schooling (12.6 per cent yearly in 1959-1963), with a consequent increase in social demand; and, secondly, the proliferation of institutions for higher education as a result of local pressure and interests.... Considerations of social prestige have also played an important part in their recent increase. To begin with, the rural teacher-training schools made representations for promotion to the category of urban teacher-training schools. Having abolished the difference between the two, they are now seeking promotion to the category of teacher-training colleges at the higher level, which also prepare secondary school teachers. Some higher-level professional training schools have become universities, while universities have set up branches, which in their turn are gradually developing into autonomous universities. The private sector is also beginning to concern itself with the establishment of teacher-training schools and universities in view of the heavy demand for places, which far exceeds the capacity of the State colleges and universities. The whole process has taken place at top speed without any regard for the country's over-all needs."[5]

This document goes on to point out that although, up to 1964, the universities set up in two of the eight areas singled out by the Planning Institute were able to serve as true regional centres of higher education, there is already obvious duplication between the other six.

These problems are common to the whole region. A wide variety of motives and pressures leads to the spread of the universities and the process becomes self-perpetuating. Each province is anxious to have a university simply because the others have one, irrespective of the need to distribute available resources in a rational way throughout the country and to maintain a reasonably high level of education.

It would be premature to predict the outcome of this process. But it seems quite clear that, although on the one hand it will help at great cost to extend higher education (in many cases really a higher level of secondary education), on the other, it will make for the use of a sliding scale of values for degrees depending on the university they are issued by. Some are likely to be of purely local significance, and to be used as a yardstick in filling the upper categories of the tertiary sector in municipalities, since they have little or no value in the country as a whole or even under other local authorities. Were this not so, it need hardly be said, the process would be still more undesirable, since widely different levels of training would be presumed to be equal, to the serious detriment of economic and social growth. The system is, in any case, irrational, and national plans are badly needed to decentralize the universities and open them up to the students that have so far been unable to gain admission, in order to promote the country's interests and use its intellectual resources to the full.

4. THE PRIVATE UNIVERSITIES

As regards the private universities, countries can be divided into three groups: (*a*) those that have only State or public universities, which is increasingly rare in Latin America; (*b*) those that also have private denominational universities mainly Catholic; and (*c*) those that, in addition, have private universities supported by lay foundations or corporations.

A whole host of highly important controversial issues has sprung up around the private universities, beginning with the question of whether the freedom of education guaranteed by every constitution implies, in addition to the possibility of establishing non-State centres of higher education, the power to confer valid professional degrees, and ending with the advantages or disadvantages of denominational institutions of education. They are, however, outside the province of this study, which is concerned with the contribution of the university system to the development process.

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[5] Peru, Instituto Nacional de Planificación, *Desarrollo económico y social, recursos humanos y educación* (Lima, June 1966), pp. 2-37.

In this connexion, it should be stressed that most of the Latin American countries have little money for meeting the requirements of the university system as a whole, and few specialized staff for keeping up a reasonably high standard of teaching and research. The extraordinarily large number of universities in the United States is a sign of the vast resources that have been tapped in the course of a long and complex process of growth. Nothing in Latin America indicates that the same process will be repeated there.

Nearly all the private universities in the region are State-aided to some extent, that is, they must use a certain proportion of the resources of the community. A good many teachers at the private universities are also on the staff of the State universities. The shortage of funds and staff thus leads to a situation in which, in the last analysis, the whole university system is supported by resources drawn, in both cases, from the public and private sectors alike.

It cannot be claimed, therefore, that the formation of private universities will necessarily lighten the burden on higher education. It may do so, but the problem is essentially one to be tackled anew in each case in terms of the resources available, and of the capacity of a new centre to improve the situation measured against its cost.

Thus, in the present state of affairs in Latin America, questions of politics and particularly religious issues are overshadowed in higher education by the need for a firm decision to create new universities as part of a planned effort to meet development requirements, with due regard, among other things, for the factors outlined above. If it is considered undesirable that university teaching staff should work on a part-time basis, it is senseless to prolong this practice by setting up new universities that would be short-staffed. It would be equally absurd to establish new universities with high operating costs and divert the resources of the community towards them, when the existing institutions can be enlarged so as to do the same work at a much lower cost.

The antagonism between the public and private universities ranges from more or less covert criticism to open conflict, but its significance must be appraised in the context of university planning at the national level.

C. The penetration and spread of the universities

1. The patchwork situation in Latin America

The penetration of the university system, whether measured in relation to the relevant age groups or to the population as a whole, varies considerably from one country to another. It ranges from nearly 8 students per 1,000 inhabitants in Argentina to countries where the ratio is not even 1 per thousand. The former is one of the highest ratios in the world, and far exceeds Argentina's level of economic development in terms of *per capita* income (see table 14).

Table 14

LATIN AMERICA: UNIVERSITY ENROLMENT, URBANIZATION, DISTRIBUTION OF THE ACTIVE POPULATION AND OF THE MIDDLE CLASSES IN SELECTED COUNTRIES

Country	*Enrolment as a percentage of the population of 19 to 22 years of age (round 1965)* (1)	*Annual growth rate (1960-65)* (2)	*Percentage of the population in centres with 20,000 and more inhabitants* (3)	*Percentage employed in the secondary sector* (4)	*Percentage employed in the tertiary sector* (5)	*Middle classes as a percentage of the total population (round 1950)* (6)
Argentina	13	7.2	57.5 (1960)	27.9	40.6	36
Bolivia	4	5.3	19.6 (1950)	12.9	10.9	—
Brazil	3	10.3	28.1 (1960)	13.0	26.1	15
Chile	6	14.5	54.7 (1960)	24.5	37.8	—
Colombia	4	10.7	36.4 (1964)	—	—	—
Costa Rica	5	2.5	24.0 (1963)	18.5	30.8	22
Dominican Republic	2	8.2	18.7 (1960)	11.0	20.4	—
Ecuador	3	8.5	26.9 (1962)	18.2	22.9	10
El Salvador	1	9.4	17.7 (1961)	17.1	21.6	10
Guatemala	2	7.8	15.5 (1964)	—	—	8
Haiti	—	4.6	5.1 (1950)	—	—	—
Honduras	2	5.3	11.6 (1961)	9.8	18.5	4
Mexico	4	9.1	29.6 (1960)	14.8	21.4	—
Nicaragua	2	12.1	23.0 (1963)	—	—	—
Panama	8	11.2	33.1 (1960)	12.4	32.2	15
Paraguay	4	10.5	16.8 (1962)	18.6	24.6	14
Peru	8	9.5	28.9 (1961)	16.7	27.5	—
Uruguay	9	7.5	61.3 (1963)	27.9	47.4	More than 40
Venezuela	7	11.6	47.2 (1961)	18.9	41.3	18

SOURCES: Column 1: UNESCO, Conference of Ministers of Education and Ministers responsible for Economic Planning in Latin America and the Caribbean. Column 2: Inter-American Development Bank, *Socio-economic progress in Latin America.* Sixth annual report (1966) of the Social Progress Trust Fund (Washington, 1967), p. 35. Columns 3 to 5: National censuses. Column 6: Gino Germani, "The strategy of fostering social mobility", in *Social Aspects of Economic Development in Latin America*, Egbert de Vries and José Medina Echavarría, eds. (UNESCO, 1962), vol. I, table 2, pp. 224-225.

International comparisons in this field should be accepted with some reservations. To begin with, the number of students is nearly always compared with the total population regardless of its age structure. What is even more important, the units of comparison are not the same. In the highly developed countries the proportion of full-time students is much larger than in the Latin American universities. The average duration of university courses is also far longer in Latin America, and this tends to lay undue stress on the comparative importance of university enrolment.

Despite these qualifications, it seems clear, however, that certain countries have the right number of university students in the sense that they can supply, in principle, a large enough number of highly-qualified persons to satisfy development requirements. In other countries, university enrolment is so low that it is barely conceivable that the universities can meet even the more pressing demands for highly-trained personnel.

Whatever the starting-point chosen, however, university enrolment has evidently soared in the last ten years. This has been partly due to the previous increase in secondary school attendance, but other factors have also played their part since, in a few cases, such as that of Peru, the growth rate of university enrolment has been higher than that of secondary school enrolment. The two factors are concomitant and probably spring from the same cause.

Although the growth rate varies considerably, it is always high whatever the initial enrolment population ratio. It is significant that it should be so, whether admission to the universities is easy to obtain (no entrance examinations or quotas) or difficult. In this respect there is apparently no correlation between the existance of systems for limiting admission and the proportion of students to the total population. Or rather, there seems to be a negative correlation: Argentina, which has the highest proportion of students, has never set up a system for limiting admission, whereas several Central American countries with low enrolment rates do control admission.

In this sense, all the Latin American universities are facing a student "explosion", like their American and European counterparts, but the starting-point and significance of this phenomenon differ considerably.

Its causes are usually assumed to be population growth, increased secondary school enrolment and greater social expectations, but in the Latin American countries, these are supplemented by yet another, which is a very new development in most of them, that is, the increasing number of women entering higher education. Differential sex rates show that female enrolment has risen far more rapidly than male enrolment in the last few years, except in countries where the rates have remained static at similar levels to those normally found in developed European countries.

2. THE UNIVERSITY AND THE MIDDLE CLASSES

On the whole, urbanization and the importance of the middle classes largely determine the magnitude of university enrolment. In Latin America, urbanization is related to a variety of factors, and its corollaries are usually the growth of a huge marginal population and the development of the tertiary sector, in which occupations for which no educational qualifications are needed, such as domestic service, play an important part. While the middle classes are increasing considerably in both absolute and relative terms, the tertiary sector is expanding at an exceptionally rapid pace, largely at the cost of an increase in the types of employment that demand a good education. The correlation is shown clearly in table 14. *Per capita* income is obviously an influential factor, but the reason why some Latin American countries have higher rates of university attendance than countries with similar or higher *per capita* income levels seems to be the upsurge of the middle classes which, for structural reasons, must rely entirely or almost entirely on education as the open sesame to employment.

The middle classes in Latin America have great educational ambitions for their children, ending with the university, which is traditionally the highest level attainable and the key to certain positions in the tertiary sector. But their ambitions are shaped by an occupational structure in which the middle classes' possibilities, not of ascending but simply of preserving their status, are largely determined by the educational levels their children attain. When these factors work in the opposite way, higher education tends to remain embryonic, as it has in some countries.

However, the enrolment figures in the different countries are often not a true reflection of the actual number of university students. Unfortunately there are no reliable figures on the number of persons, even at the undergraduate level that go abroad to study, many of them to other regions. It must be very small for Uruguay and Argentina, for instance, which even receive large numbers of students from other parts of Latin America, but it is high in Central America. Although enrolment in some of these countries is very low, it is less inadequate than it seems on paper. But even if the over-all distribution of university enrolment is assumed to be satisfactory, the number of students in most of the Latin American countries is far less than the minimum required for development purposes, and however high the rate of growth, it will be a long time before the deficit can be made up.

D. Distribution of university enrolment by disciplines

1. THE PREFERENCE FOR TRADITIONAL CAREERS

The main features of the distribution of university enrolment are indicated in table 15. Although this type of comparison is not altogether satisfactory because it does not always place the same branches of study under the same headings, it shows quite clearly that the traditional careers of law and medicine still attract an enormous number of students. Where the universities have a fairly long tradition of development and school attendance rates are highest, as in Argentina and Uruguay, the proportion is over 40 per cent, and over 50 per cent in Uruguay. In those countries where university education has only recently begun to spread, the proportions are much lower but still significant. It is to be hoped that enrolment for medicine will go up considerably in many countries where the over-all level of enrolment is low, since the ratio of doctors to the population as a whole is far too small for even the most elementary standards of health to be maintained.

Table 15

DISTRIBUTION OF UNIVERSITY ENROLMENT IN SELECTED COUNTRIES,[a] 1965

	Humanities	*Education*	*Fine arts*	*Law*	*Social sciences*	*Natural sciences*	*Engineering*	*Medicine*	*Agriculture*	*Unclassified*
Argentina (1964)	12.9	—	5.3	13.0	16.1	7.8	9.3	33.7	1.9	
Bolivia (1963) [b]	—	—	4.8	16.5	23.2	6.4	21.4	27.7	—	
Brazil (1965)	11.0	5.8	3.2	21.4	19.4	4.4	14.3	16.4	3.9	0.2
Chile (1961)	4.0	27.4	5.2	10.8	10.5	5.5	20.1	12.2	4.3	
Colombia (1964)	8.0	7.3	8.7	12.6	13.9	8.3	20.6	13.2	7.4	
Costa Rica (1965)	53.5	11.2	6.0	5.4	12.5	0.9	4.0	4.1	2.4	
Cuba (1964)	4.1	14.5	2.1	1.5	23.8	7.6	16.3	25.0	5.1	
Ecuador (1961)	4.0	8.2	4.7	15.8	12.6	4.7	21.1	23.6	5.3	
El Salvador (1964)	9.5	—	—	40.4	40.4	11.7	18.8	15.3	—	4.3
Guatemala (1965) [c]	7.1	7.1	2.6	19.8	15.7	2.0	9.8	9.0	2.5	31.5
Haiti (1964)	7.4	—	—	41.8	3.1	6.8	10.3	27.4	3.2	
Honduras (1963)	3.5	2.4	—	18.0	23.0	2.9	15.2	26.9	8.1	
Mexico (1965)	12.2	0.3	5.3	12.5	24.5	8.5	17.3	15.4	3.2	0.8
Nicaragua (1964)	—	16.0	—	16.0	25.0	—	12.4	20.5	5.8	4.3
Panama (1963) [d]	28.2	9.9	4.4	4.7	21.8	20.6	6.7	1.8	1.9	
Paraguay (1962) [e]	8.4	3.3	9.8	22.3	19.7	11.0	5.3	15.3	4.9	
Peru (1963)	17.0	20.0	1.2	7.9	18.7	5.9	9.0	11.0	6.6	2.7
Poland (1964)	8.2	9.0	3.0	5.4	16.5	6.4	32.6	9.4	9.5	
Dominican Republic (1961)	5.8		—	19.2	22.3	—	20.6	31.0	1.1	
Federal Republic of Germany (1964)	16.7	13.7	2.5	5.7	10.7	10.3	27.4	11.8	1.2	
Venezuela (1960) [f]	8.3	8.1	3.2	15.2	21.1	1.7	17.6	19.4	4.2	1.2

[a] Percentages calculated on the basis of figures taken from the *Unesco Statistical Yearbook 1965* (Paris, 1966), table 16.

[b] Universidad de San Andrés.

[c] Universidad de San Carlos.

[d] Universidad de Panamá.

[e] Universidad Nacional de Asunción.

[f] Data for three universities and the Pedagogical Institute.

The marked preference for certain traditional careers contrasts with the low enrolment in agriculture, engineering and science. In no Latin American country is less than 18 per cent of the active population employed in agriculture, and in most of them the figure is over 40 per cent; but the proportion of students taking agriculture is never more than 10 per cent and usually under 5 per cent. Brazil is a case in point. A fifth of all students are in the Faculties of Law, while only one in twenty-five studies agriculture. This is less than half the number studying the humanities and only a little more than those studying fine arts.

The prevailing trend seems to be towards a reduction in the number of law students and a more rational distribution of enrolment. However, the reduction, which is by no means universal, is not particularly favourable to the study of science and technology proper. In some cases it is accounting or economics that reap the benefit. It should also be remembered that engineering usually denotes studies in civil engineering rather than in the industrial or technical branches.

For want of information it is difficult to determine how far study abroad affects enrolment figures. In some countries it undoubtedly has no impact whatsoever, but where its incidence is appreciable, it may be expected that: (*a*) a sizable proportion will consist of students whose families pay the cost of their studies abroad. Even if the Government has some criteria or plans for training human resources in terms of development requirements, these students will fall outside their scope. An order of priority can be applied to fellowships only; (*b*) students who go to foreign universities inevitably have greater social prestige than those who study locally; consequently, a certain number probably decide to take up a particular profession because of its status rather than with the intention of exercising it; (*c*) enrolment for study abroad is no doubt better distributed in terms of economic development needs, since students are more likely to go abroad to study engineering than law, for instance, but many of those who exercise a profession will be attracted by the possibility of high social prestige to enter the established areas of activity, thus greatly limiting the potential for change; and (*d*), at the very least, a large proportion of those who study abroad will remain there to work, with the result that the money spent on pre-university training will benefit the host country.

2. UNDERLYING CAUSES OF THE DISTRIBUTION OF ENROLMENT: SYSTEMS OF VALUES AND OCCUPATIONAL OPPORTUNITIES

There are good reasons for believing that the distribution of enrolment is largely determined by a system of values with respect to the occupational hierarchy that is proper to the middle classes and strongly influences the prestige enjoyed by each occupation in the university. There are also grounds for thinking that these values are to be found in nearly every social group. Distribution within the university therefore reflects the general trend of the social system. Whatever the significance ascribed to these phenomena, however, other factors also govern the real opportunities available in the labour market and should not be disregarded. It is so often said that Latin America needs many more agronomists, technicians and engineers than graduates from its universities and that it trains far more lawyers than it needs that this has become a truism; but its truth is self-evident to anyone who is interested in predicting future development trends and the resulting growth of demand for highly-trained labour.

However, the current state of real demand for agronomists, technicians and engineers is very different. This is made clear by the courses in agriculture, in which the proportion of students is tiny and is increasing very little. In Argentina, the law students dropped from 37 to 13 per cent of the total enrolment between 1957 and 1964, which is a great improvement, but the natural science students increased only from 7 to 8 per cent, the engineering students remained at 9 per cent, and the students of agronomy rose from 1 to 2 per cent. In most countries the *leit-motif* is stagnation or decline. In theory, it is imperative to reform and mechanize agriculture, and this entails more specialists; but, in practice, their employment opportunities are negligible. The great majority of the private farms are economically too small to employ a technical expert, and the remainder consists of estates that are lying idle or are worked by old-fashioned methods in which technical expertise plays little part. In view of the present state of agriculture in Latin America, the number of technical experts produced by the universities is, with few exceptions, perfectly adequate. In fact, paradoxically enough, it is often excessive. Most of them eventually enter government service, which would be entirely creditable if they were employed as advisers or leaders of rural development. In practice, however, they are mainly given bureaucratic tasks that often have little or no real connexion with agricultural work.

A glance at the enrolment structure in most of the Latin American universities leaves the impression that the labour market can never absorb all the would-be lawyers and that agronomy would be a highly remunerative career. But, as in the best of cases, both will have difficulty in finding employment, it is natural that the prestige traditionally attaching to certain professions should be a prime consideration.

Although, in both cases, the training provided by the university does give an entrée to the labour market, the type of job subsequently taken may bear little relation to it. Bonilla[6] refers to the results of a survey which indicate that only 48 per cent of the lawyers are engaged in activities that are directly related to their university studies, and the same applies to 52 per cent of the engineers. At the beginning of the century, when enrolment figures were ridiculously low in comparison with their present levels, misgivings were harboured in Argentina and Uruguay about the plethora of professional lawyers and its dangers, and numerous studies clamoured for a radical switch to agriculture and science. By the middle of the century the lawyers were still able to find good employment with relative ease, while the opportunities open to the other professions have not increased one iota in comparison with expectations. This indicates that the system of values and traditional scales of prestige are more realistic than they appear to be, and that this partly explains why they hold their ground.

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[6] Frank Bonilla, "Cultural élites", in *Elites in Latin America*, S. M. Lipset and A. E. Solari, eds., (New York, Oxford University Press, 1967), pp. 233-255.

3. THE CASE OF CUBA

When a revolutionary movement is associated with a binding commitment to development, the fundamentals of the university problem are entirely different. In Cuba the administration of the educational and allied services is decentralized, while the authority under whose direction they operate, and the top levels of technical and administrative supervision, are centralized.[7] Consequently, the government of university affairs and the policies adopted are under the direct authority of the Ministry of Education, and educational planning is incorporated in the over-all development plan through the permanent linkage between the Department of Economics of the above-mentioned Ministry and the corresponding division of the Central Planning Board.

Up to now, this integration has resulted in quite a considerable expansion of university enrolment; a sweeping change in its distribution; and an increase in the importance of the scholarship system. Enrolment rather more than doubled between the academic years 1962-63 and 1966-67, rising from 17,609 to approximately 37,000. Concomitantly, there was a marked change of bias in favour of science and technology, whereas enrolment in the faculties of arts, and particularly of law, declined.

Scholarships cover board and lodging; education itself is free of charge for all students, whether scholarship-holders or not. The aim is to draw university students from the lower income strata of the population, including those living in rural areas. The proportion of scholarship-holders has steadily climbed from 17.5 per cent in the academic year 1962-63 to an estimated 39.8 per cent in 1966-67. The distribution of total enrolment has remained unaltered in the sense that the major share is still retained by the University of Havana, which in 1965-66 absorbed 70.5 per cent of enrolment and 73.3 per cent of the total number of resident students. Thus it accounts for almost three quarters of the student body. While enrolment of non-scholarship-holders in the University of Havana increased by barely 10 per cent between 1962-63 and 1965-66, the number of scholarship-holders more than quadrupled. As this university system is combined with an enormous number of scholarships for pupils at the other educational levels, the sources from which students are drawn have undergone a radical modification, parallel with the change that has taken place in the distribution of students by disciplines.[8]

4. NEW TYPES OF LEADERSHIP IN RELATION TO ENROLMENT

Every society needs what for want of a better term may be called "generalists", i.e., people who act as social leaders, who play a considerable part in the activities of the political *élites*, and who are capable of building some kind of image of the nation and the national destiny, however doubtful its accuracy may be. Not all these generalists come from the universities; but a good many do. In the past the function of training leaders at this level was fulfilled by the faculties of law. The social changes which have occurred and the decrease in the importance of these faculties and of the lawyer's role should not blind us to the fact that the training function was discharged really quite efficiently. The view may even be held that no university school or faculty, nor indeed the university as a whole, has been capable of filling this role under existing conditions as efficiently as did the faculties of law in the past, in very different circumstances. At the present time, the function in question, without passing entirely out of the hands of the faculties of law, has been assumed mainly by the faculties of engineering and of economics. Accordingly, when a considerable expansion takes place in certain disciplines, if its impact on future development prospects is to be properly measured, a point to take into account is what proportion of the new students subsequently devote themselves to the actual exercise of their profession as such, and what proportion become generalists. The significance of changes in enrolment patterns may vary somewhat according to this distribution by function. The enrolment changes noted in recent years have been dictated, to an extent which unfortunately cannot be precisely defined, not so much by a proportional increase in employment opportunities in specific careers as by the alterations in the composition of the generalist group resulting from changes in the style of leadership required. Up to a point, this has been due to outside influence, including the influence of international agencies. The Latin American State needs a different type of person, different modes of thought, and this affects the distribution of university enrolment although there is no corresponding change in the occupational structure, such as would have taken place in a self-sustained development process.

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[7] See the report to the XXVIIth International Conference on Public Education, convened by the International Bureau of Public Education and UNESCO (Geneva, 6-17 July 1964,) by the Ministry of Education of Cuba (Havana, 1964) p. 5.

[8] Data taken from the report of the Ministry of Education of Cuba to the XXVIIth International Conference on Public Education, op. cit., and from an annex to the report of the delegation of Cuba which was presented by Mr. Carlos Rafael Rodriguez, Minister Without Portfolio, at the twelfth session of the Economic Commission for Latin America (Caracas, 2-13 May 1967).

E. University performance

1. Low levels of university performance

The most widely used and apparently the best method of measuring the performance of a university system is to consider the number of graduates it produces, since this serves as a yardstick for measuring its efficiency in relation to the ends it pursues, although it gives no indication of the level of attainment. The foregoing criterion has been criticised on two grounds: first, that it lays too much emphasis on training for a profession; and secondly, that it does not take into account the contribution to the improvement of manpower that can be made by attendance at the university, even if only for too short a time to complete a course of study.

The first of these criticisms seems groundless. A mistaken conclusion is drawn from the idea that the university can no longer be a mere machine for turning out professionals, as in the past, and that it should provide training for pure research and for many activities that do not fit into the traditional cadres. In point of fact, however, the question is not how many professionals the university produces, but how many students graduate in any branch of activity or speciality, in accordance with the criteria established by the university itself for the award of a degree. A student preparing for a career that is not a profession in the traditional sense of the term will be trained by the university in a series of stages which it is assumed will constitute an organic whole and will culminate in his obtaining some sort of academic title at the graduate or post-graduate level (*bachiller*, *licenciado* or *doctor*). In that capacity he will be a graduate, and will be taken into account in the measurement of the performance of the university system concerned.

The second criticism is more complex and raises a problem which is difficult to solve. If the performance of various universities is to be measured, the criticism is obviously meaningless. Should one university produce fifty graduates per hundred students enrolled and another twenty, the performance of the first is clearly superior to that of the second, since those who complete their studies will always be better equipped to serve the community than those who drop out. The university which loses fewer students makes, through those who drop out and in greater measure through its graduates, a much bigger contribution than the other university.

Thus, the argument is valid only when a comparison is drawn not between several universities but between the positions of those who have followed part of a university course and those who have never been to the university, in one and the same country. Given the postulate that an increase in the number of years of schooling is beneficial for economic and social development, the student with one more year of education must obviously be more useful to society than the student with one less. But attendance at the university merely to pursue partial and incomplete studies has a social cost, consisting in the resources used to maintain the individual student concerned and the consequent deterioration in the quality of the services received by the whole student body, not to mention the opportunity cost. Hence it is questionable whether partial studies, generally followed without a definite plan that ensures consistent training, represent on balance a net benefit to society. At the level of the individual student, the sense of frustration engendered by such situations should also be taken into account with all its implications.

Measurement of performance in terms of numbers of graduates is not an ideal mechanism, but it is the best available. The most correct method of applying it would be to follow up the new students, one by one, for a long enough time to assess how many drop out and at what stages they do so, and how many graduate. Because this procedure is difficult and costly, it has very seldom been adopted. The alternative is to estimate the number of students admitted and the number of graduates with a few years interval between the two measurements, but here the lack of statistical data is a stumbling-block. In the present study, for practical reasons, a more imperfect indicator has been used, i.e., the ratio between the number of graduates and enrolment numbers in one given year. The use of this method places a university with a rapidly rising enrolment at an apparent disadvantage vis-à-vis one where the student population does not increase. Nevertheless, a rough but fairly satisfactory idea of the magnitude of the problem can be obtained.

Table 16, which presents a comparison between university performance levels in Latin America and in countries outside the region, shows tremendous variations. These are attributable to differences in the organization of the university system, to higher or lower rates of increase of enrolment in recent years, and to the degree of selectiveness of admission systems. Some universities give degrees at the end of a three-year course, while in others there are very few disciplines requiring so short a period of study. Thus the position in Argentina and Uruguay looks worse than it really is. To overcome this drawback, in comparisons with non-Latin American countries, those with widely differing university systems have been considered.

Table 16

LATIN AMERICA: UNIVERSITY PERFORMANCE LEVELS COMPARED WITH THOSE OF COUNTRIES IN OTHER REGIONS, 1965

Country	*Number of graduates as a percentage of number students enrolled*	*Number of students per 100,000 inhabitants*
Mexico	17.8	190
Brazil	17.3	132
Puerto Rico	13.9	805
Panama	12.4	135
Costa Rica	11.7	231
Peru	11.5	222
Honduras	7.5	68
Colombia	7.2	191
Venezuela	7.2	220
Chile	6.8	—
El Salvador	6.5	78
Paraguay	6.4	164
Argentina	5.7	787
Ecuador	4.7	174
Uruguay	3.3	610
Guatemala	2.1	123
Spain	7.5	241
Poland	9.7	571
Italy	11.3	321
France	11.7	409
United States of America	13.6	1 738
USSR	14.3	—

SOURCE: *Unesco Statistical Yearbook 1965* (Paris, 1966).

With all due reservations, the performance levels of university systems in Latin America seem low. Only five countries—excluding Puerto Rico, which really belongs to a different system—reach levels higher than those recorded for Spain, which stands lowest among the non-Latin American countries cited; and even in these five, the enrolment rate—i.e., the proportion of the population represented by university enrolment—is a good deal lower than in Spain.

Once again excluding Puerto Rico, it may also be noted that as university enrolment rises the level of performance falls; but there are cases where even though the university enrolment rate is very low, performance is minimal. Natural as it may seem that performance should deteriorate as enrolment increases in relation to the total population, it must be borne in mind that performance levels in Latin America are much lower than in various European countries, the USSR, and the United States, although among these there are cases in which enrolment rates fall below the peak figures for Latin America and others in which they are very much higher.

Presumably, therefore, unless drastic reforms are introduced, the few countries where performance rates are relatively high and enrolment coefficients very low will be liable to witness a serious deterioration in their performance once the enrolment rate rises to the extent that development will require. Furthermore, the few existing studies that cover an adequate number of years using static indexes like those given in table 16, and analyse changing trends, show that the speed at which performance decreases is remarkable. For example, from a study on the educational situation in Uruguay[9] it emerges that twenty years ago fifty-six students graduated out of every hundred enrolled (the measurements being separated by a period similar to the expected duration of the courses), and that in recent years the corresponding proportion has dropped to 28 per cent, or, in other words, has been reduced by half. In all likelihood, much the same thing has happened in Argentina. Although these may seem to be exceptional situations partly imputable to conjunctural factors, they indicate a trend which is probably fairly widespread. A point is thus reached at which enrolment numbers are constantly augmented by new intakes while the number of graduates remains constant or increases very slightly. Measured in terms of graduates, the university system becomes very costly. In many cases, too, the studies pursued last far longer than the period envisaged in the plans, so that graduates are above the normal age when they join the active population. As this delay is impracticable for the majority there is an increase in the percentage of students entering gainful employment, i.e., joining the labour force before they have taken their degree, a circumstance which in turn tends to retard graduation.

The correlation between increased enrolment and low performance is not so obvious, however, as is generally thought, since both low and high levels of performance are found with low enrolment numbers, and *vice versa*. The problem is much more complex than it seems, and calls for special and very careful research. Perhaps in two different countries a high and low enrolment rate (in relation to the total population) may have exactly the same significance, inasmuch as in both cases enrolment may be reaching saturation point in relation to the university potential.

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[9] Uruguay, Ministerio de Instrucción Pública y Previsión Social, *Informe sobre el estado de la educación en el Uruguay* (Montevideo: vol. I, 1965; vol. II, 1966).

The widespread shortage of resources in Latin America, the difficulties of obtaining enough funds for higher education and the fact that such education is the prerogative of a privileged minority, all point to the seriousness of the problem. Over-all university performance in Latin America must be about half as high as it could be if a few basic measures were applied, without recourse to unduly sweeping changes. The tendency of this poor performance to deteriorate still further is also highly significant.

Such a state of affairs is clearly due to a whole complex of causes. Some are probably peculiar to specific countries; but there are grounds for suspecting that others may operate everywhere, and account for the fairly similar patterns observable throughout the region.

2. TRAINING OF SECONDARY SCHOOL TEACHERS AND UNIVERSITY EFFICIENCY

In some Latin American countries primary teacher training is the responsibility of the universities; in most of them, special institutes exist for the training of primary school teachers. The same is true of the training of secondary school teachers, although in their case a university training is much more common.

The growth of higher education obviously depends upon a previous expansion of secondary education. All the Latin American countries, in greater or lesser degree and for periods varying in length, have been suffering the impact of a veritable population explosion on secondary education. Consequently, almost all are having serious difficulty in finding the requisite teaching staff.

Almost everywhere, it is in secondary education that the lack of properly trained teachers is greatest. The policy of training primary school teachers dates back a relatively long way, although many countries still have a large proportion of unqualified staff in their primary schools. As a general rule, however, the situation is far worse in secondary education, since special training facilities are of much more recent date and in some countries are still non-existent. As a result, the rapidly growing demand for secondary school teachers is met partly by primary school teachers and partly by university graduates specializing in the most widely different branches of study, for whom teaching is only a part-time activity, or by persons who have followed only part of a university course or have not even completed their secondary education. Although the proportions represented by these three groups vary, none of them possesses special qualifications for secondary school teaching, and the last two have had no sort of training for teaching whatever, despite which they form the bulk of the teaching body. The last group usually lacks even the necessary knowledge to pass on. All these factors do much more than the bewilderingly rapid rate at which secondary education is expanding to account for its poor performance, which becomes apparent when pupils holding school leaving certificates enter the university.

Such a state of affairs is seriously detrimental to national education and its contribution to development, since the vast majority of students will get no farther than the secondary school; but, in addition, a pressing problem is created for the universities. In all countries steps are being taken to adopt or study the requisite measures for remedying, within the university itself, the deficiencies due to inadequate preparation of pupils in the secondary schools. However much allowance may be made for the traditional tendency of each educational level to exaggerate the shortcomings of the one immediately below it, the problem is a real one. Any corrective measure applied within the university is extremely costly, and means that resources already in short supply have to be used for purposes for which they were not intended. Hence it seems essential that the university should assume responsibility for the training of secondary school teachers as one of its most imperative tasks.

Many have done so; but in the vast majority of cases the number of graduate teachers is ludicrously small in relation to the needs of the community. This is partly due to causes beyond the universities' control. It is difficult to promote teacher training when access to the teaching profession can be obtained by more convenient short cuts. Few incentives will exist until legislation is passed to establish salary scales in accordance with qualifications. Nevertheless, for part of the trouble the universities themselves are to blame. A common practice in Latin America is to seek to maintain a specific level in terms of the length of the programme of studies, measured in years. When the universities undertake to train secondary school teachers, they are prone to establish requirements little less exigent in this respect than those laid down for the traditional disciplines. This is an unrealistic policy, since not many intending teachers will pursue such courses of study if they can get into the profession by other means. Moreover, in most specialities the few who do obtain a teaching diploma will not end up as secondary school teachers but in some other walk of life. For example, the student who takes the course of training required for a teacher of mathematics can easily obtain a post as assistant engineer, and as technicians of this type are in short supply, he can earn more than he would as a secondary school teacher. For these reasons, many countries have set up special institutes to provide intensive extra-university training for secondary school teachers. The practice can hardly be avoided if the universities persist in a policy whose only result is that posts are filled by unsuitable candidates; but it is intrinsically undesirable as well as costly. As a general rule, a university has resources at its disposal which, if properly combined and co-ordinated, could be turned to account for the training of secondary school teachers at different levels. Gradually, as basic requirements were met, it would be possible to make severer demands or to discontinue the shorter courses, and university procedures would thus be progressively adapted to the service of the country's needs. In the last analysis, the maintenance of a given level in terms of years of study can hardly be regarded as an end in itself.

F. Social composition of the university population

1. INTAKE AND SELECTION

The social composition of the university population depends upon a number of factors and in Latin America varies considerably. Obviously, it is largely conditional upon the social composition of the secondary school population, since it is in the secondary schools that the university student body is built up.

Although at the secondary level too the educational situation differs widely from one Latin American country to another, in almost all of them the increase in the number of pupils has been enormous (see table 17). The vast majority of secondary school pupils, like their parents, regard secondary education as an anteroom to the university. Even if a decrease were to take place in the proportion of secondary school entrants completing the course, so long as the percentage of school-leavers seeking admission to the university remained the same, the number of candidates for university places would still increase, because of the tremendous expansion in enrolment at the secondary level. Generally speaking, as *per capita* income rises, at least in large segments of the middle-income groups, aspirations also begin to soar, with the result that there is a higher percentage of pupils wishing to go to the university.

Table 17

LATIN AMERICA: ANNUAL GROWTH RATE OF SECONDARY EDUCATION, 1960-65

Argentina	6.0
Bolivia	11.3
Brazil	11.7
Chile	7.5
Colombia	10.1
Costa Rica	5.6
Dominican Republic [a]	10.2
Ecuador [a]	10.7
El Salvador	8.7
Guatemala [b]	12.0
Haiti	4.7
Honduras	8.1
Mexico [b]	17.4
Nicaragua	21.0
Panama	7.1
Paraguay	5.0
Peru	14.7
Uruguay [b]	5.9
Venezuela [c]	10.2

SOURCE: Inter-American Development Bank, *Socio-Economic Progress in Latin America*, sixth annual report (1966) of the Social Progress Trust Fund (Washington, 1967), p. 34.

[a] 1961-1966.

[b] 1959-1964.

[c] 1961-1965.

These growing aspirations and the equality of all citizens are invoked as arguments in favour of access to the university for all those who complete their secondary education. For example, in 1964 more than 26,000 holders of school leaving certificates attempted to enrol in the various Peruvian universities as new entrants, whereas in 1955 the total student body had numbered 20,000. Over 100,000 candidates sought admission to the universities in Brazil in 1967, i.e., 60 per cent of total enrolment in 1965.

In some countries secondary education has been expanding not only rapidly but for a long time, and the university has always shown a great deal of flexibility in admitting all holders of school leaving certificates. Consequently, the growth of the university has kept pace with that of secondary education. Although difficulty has been experienced in absorbing the new candidates, and has been overcome only by sacrificing performance—either because of the mere increase in numbers or because of the types of groups admitted—the process may be said to have been more or less gradual.

But in most countries, secondary education has forged ahead at top speed in the course of a very few years, with the result that there are a great many holders of school leaving certificates, compared with university structures established for a very small number of students.

A paradoxical situation thus arises. A prerequisite for the economic development process is an increase in the number of personnel with higher educational qualifications, and in theory the expansion of secondary education paves the way to this end; but the university structures cannot possibly admit all holders of school leaving certificates without disastrous results.

On the one hand, it is often alleged that, after all, university education implies a process of selection, and therefore access to the university must be limited by the establishment of admission quotas. Since these are not commensurate with the number of candidates leaving the secondary schools, entrance examinations must be organized as a means of selecting the most suitable candidates. At first sight, this argument seems irrefutable, since it is hardly conceivable that university education can be made available to all in countries like those of Latin America, at any rate in the near future.

In theory, there are two principal methods of selecting students in order to make optimum use of a society's intellectual potential. One is based on intelligence tests, and the other on school records. Believers in intelligence tests assume that it is possible to measure intelligence and, on the basis of its distribution by regions and social strata, to construct a map of the human talent potential of a given society. The procedure would be to start by selecting the most outstanding candidates in each area and to work downwards until the desired student quota had been filled. This quota would constitute the country's intellectual *élite*, provided that all its members had completed their secondary education. Apart from the theoretical objections to this criterion, it has never proved applicable in any society, and could scarcely be imposed in societies like those of Latin America. Basing the selection of candidates on school records has the same drawbacks, especially if the extremely uneven distribution of secondary education is taken into account. The two methods may be combined, by requiring pupils holding secondary school leaving certificates to take an intelligence test. This again, however, is not a means of selecting the talent potential of the society as a whole, but at best that of one group.[10]

Systems such as these compel the secondary school to concentrate its efforts on training its pupils to pass university entrance examinations. Private schools, whose resources are greater, are in a better position than State schools, and in countries where the entrance examination system is applied they preen themselves visibly on their results, since a far higher percentage of their pupils than of secondary school pupils as a whole is successful. At the same time, commercial institutions spring up which specialize in coaching pupils for the examinations and which also imply expenditure that only upper-class pupils can afford.

If, in addition, the very considerable element of change in the examination system is taken into account, it may well be thought that the line of reasoning in question is much more an ideological rationalization of a state of affairs that cannot be helped, or of a power structure that is accepted as inevitable or desirable, or of a combination of both, than evidence that a process of selection of the best candidates really exists.

Moreover, the waste of human resources involved is plainly to be seen. Thousands of candidates for university places, duly equipped with their school leaving certificates, find the door to higher education shut in their faces. What becomes of them has never been the subject of systematic study. The only obvious fact is that some of them switch over to other universities in the region where no conditions of entrance are imposed. This procedure can be adopted by only a few, and should the system spread, some countries can hardly be expected to finance the higher education of others, when they have their own difficulties to tackle. The vast majority of pupils who fail in the examinations are almost invariably cut off from any opportunity of higher education. In view of the acute shortage of primary and secondary school teachers prevailing in almost all the Latin American countries, a whole set of supplementary machinery should be designed, through which rational use can be made of a labour force that is already equipped with a secondary education, by completing its training for the occupations most urgently needed. This is already being done in several countries. The problem is not the exclusive responsibility of the universities, nor can whatever action they take be justified in terms of a supposed selection of the fittest; the whole issue is a matter for general community policy with respect to post-secondary education. Any other institutions that are set up will also imply financial and human costs, and there is no *a priori* evidence that these will be lower than the cost of expanding the capacity of the universities. The point is not that the university should have a monopoly of higher education, but that when it waives the prerogative it should do so on grounds other than the selection of the fittest with a view to keeping up a certain rank and status. One stumbling-block encountered in tackling this problem is the fact that not only the university authorities but a large proportion of the general public find it difficult to think of the university as an instrument rather than as an end in itself.

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[10] For a simple account of the two methods and of the stumbling-blocks common to both, see Hans H. Thias, "Les aspects régionaux de la planification de l'éducation", in *Conférences et essais méthodologiques sur la planification de l'éducation* (Paris, Organisation de Coopération et de Developpement Economiques, 1966), pp. 267-329.

If selective and restricted admission cannot be justified in terms of the selection of the fittest, the only criteria left consist in the limits set by financial resources and the need to plan university studies in relation to the community's future human resources requirements, within the framework of over-all development planning. It is precisely this objective that is usually conspicuous by its absence in the entrance examination system as currently applied.

Latin America needs far more university graduates than it has at present, but it needs them distributed among the different disciplines in a particular way. This implies planning at the national level, to determine—at least in broad outline—the desired distribution by occupations entailing post-secondary training, so that university enrolment can be adapted to this pattern. Although the existing system of values places various kinds of impediments in the way of any modification of career preferences, employment opportunities constitute the real obstacle to such a change. The means of breaking the vicious circle is not in the hands of the university, but derives from the over-all human resources policy adopted by the community as a whole. To develop a current of feeling in favour of non-traditional activities, machinery to encourage these new approaches must be devised. The number of agronomists and veterinarians cannot be expected to increase merely because the universities give more room to these specialities, unless at the same time employment opportunities are guaranteed, and are even—at least to start with—accompanied by differential incentives.

The bias in favour of certain traditional courses of study is preserved by the system of values in force, which considerably misrepresents their real content. Owing to the practice current in Latin America, whereby the student does not enter the university itself but one of its schools or faculties, thus taking a decision that is usually irreversible, his choice is generally made in relation to the values system, without adequate knowledge of what other disciplines may stand for. This is an argument in favour of the provision of what are commonly called "general studies".

What actually happens in most Latin American universities is that a high percentage of students proves unable to pass the entrance examination where this requirement exists, and where it does not, fails and/or drops out at the end of the first year of the course. In some cases, both situations occur. Since a selection seems unavoidable, the crux of the matter, apparently, is not whether but when it should be made.

This problem is linked to the possibility of establishing a propaedeutic year in the universities (i.e., a year of preliminary training) as a means of providing better guidance in the choice of disciplines and making the selection machinery less discriminatory.

It is worth stressing that if preliminary "general studies" are introduced, pre-university selection becomes more difficult to justify. In the first place, it does not ensure that the successful candidates are really the most suitable, for the reasons adduced above; and secondly, it cannot provide guidanec for the student body in terms of human resources requirements, since the time for this is on completion of the general studies course. Moreover, although selection may be channelled and circumscribed by a society's occupational needs, in principle the transmission of culture in itself cannot be subject to any kind of restriction. The only remaining justification would be the argument based on financial limitations, and in that case it would have to be shown that no other course was open in relation to resources and their distribution.

2. PREDOMINANCE OF THE MIDDLE INCOME GROUPS

In all the Latin American universities the middle strata of society are over-represented and the lower strata under-represented. The numerical predominance of the former is not a true yardstick of their proportional representation, since there is reason to suppose that their values and tenets have been to some extent assimilated by those members of the lower income groups who gain access to the university.

These vague generalizations afford, at most, an initial indication that in relation to vertical mobility the university does not play such a major role as has been assumed. The vast majority of university entrants belong to the middle income groups, and when they graduate will fulfil functions that will keep them at the same level, atlhough the students from the lower strata will unquestionably improve their status.

The role of the universities is probably not the same for all middle income groups or under all structural conditions. Attempts at comparison give rise to complex problems. If, for example, the Central American countries are compared with those of the River Plate basin, the differences as regards the democratization of the university student body seem smaller than they really are, because of the weight carried in Central America by those who study abroad. The upper strata of society are represented in the universities of Central America in a much lesser degree than in those of the River Plate countries. On the other hand, the relative importance of the middle income groups is greater in Central America, despite the fact that in relation to the population the enrolment rate is five or ten times lower than in the River Plate area. Nevertheless, as the middle income groups constitute a much smaller fraction of the population in Central America, the figures only imply a higher proportional representation of these relatively more privileged groups.

The educational system is highly selective even at the secondary level, inasmuch as in very few countries does the number of pupils enrolled amount to more than 40 per cent of the secondary-school-age population. The selection process is so discriminatory that according to some studies the participation of the lower income groups is reduced more than twice as much as that of the other strata; taken in conjunction with a very high drop-out rate, this explains their under-representation among holders of school leaving certificates. Furthermore, the concentration of secondary schools in the larger towns makes them almost inaccessible to young people from the rural areas, unless they belong to the upper strata. Hence, in countries where the proportion of rural population is very high, scarcely any pupils from the lower strata reach the university.

Accordingly, it is readily understandable that whatever the stratification criterion applied, students from the lower income groups hardly ever account for more than 10 per cent of university enrolment, even in the countries where the university is most widely accessible, such as Uruguay and Argentina. Thus the parrot cry that the Latin American universities have become more "popular" seems almost meaningless, except in Cuba's case, as described above.

3. THE IMAGE OF THE UNIVERSITY IN THE VARIOUS GROUPS

The different social groups seek admission to the university for different reasons. Families in the upper income brackets have, of course, no financial difficulty in sending their children to the university, and the decision to do so must depend on other factors. Such scanty research findings as are available would appear to suggest that perhaps some upper-strata pupils do not go to the university simply because they have not completed their secondary school course, while in other cases they may have no interest in a university education because the training they want is of a different type. In many cases, however, experience shows that admission to the university is eagerly sought after by some sectors of the higher income groups, because of the social prestige conferred by a university degree. It is by no means unusual to come across doctors and lawyers from families in the upper strata who renounce the exercise of their profession in favour of running their farms or living on unearned income, but who enjoy greater social prestige on account of the degree they hold.

For the middle income groups, too, a university degree represents an important status symbol, but it has other functions at least equally important. Censuses show that an immense proportion of university students are the children of small- and medium-scale businessmen and industrialists, secondary and primary school teachers, technicians and professionals. Widely different as they are, these groups have something in common: their income allows them to attain medium-to-high levels of living, but seldom enables them to amass a fortune which they can bequeath to their sons. A large number of industrialists and businessmen may not even find it easy to hand down an enterprise which, for many reasons, is steadily becoming more and more difficult to keep going without a great deal of capital. The maintenance of status precludes the choice of any but a non-manual occupation, and among these, the professions for which university studies are required are those in which it costs least to set oneself up although a considerable financial effort is required to obtain the necessary qualifications. The development of the tertiary sector in Latin America is well-known to be hypertrophic. For various reasons, in most cases it is only through this sector that the middle strata can satisfy their aspirations. Among the possibilities it offers, the highest level is afforded by the learned professions. Considerations of prestige, while undoubtedly carrying a great deal of weight, are almost indissolubly linked to occupational opportunities.

The foregoing remarks may perhaps also hold good for the lower sectors of the middle income groups. They are under-represented in university enrolment, but for them too the university must be one of the few accessible channels of social mobility. The increasingly exigent demands in respect of education mean that the children of minor employees, for example, can do no more than follow in their parents' footsteps, unless they manage to pursue post-secondary studies. The severe financial sacrifices entailed are offset by some guarantee of upward mobility.

Everything conspires to bar the lower income groups from entrance to the university. Since they are ill-prepared by their social and cultural environment to meet the demands of the primary school, a process of selection takes place which becomes more drastic at the secondary level, where, furthermore, stronger pressure is exerted by the economic factors that make it expedient for the adolescent to enter gainful employment. This process of elimination leaves only a minority which must constitute a relatively uniform *élite*.

The few existing studies also seem to show that whatever the social and economic standing of the parents, there is a positive correlation between their attainments and their children's chances of obtaining higher education.

The social composition of the student body and the aims pursued by the various social groups in the university are of decisive importance in relation to other questions, such as performance. Although these aspects of the problem call for more systematic research, it seems extremely likely that if the different social groups expect different things from the university as regards employment opportunities and social prestige, their images of the university will also differ widely. For example, partial university studies serve as an open sesame to certain occupations in Latin America, and seem to be more highly regarded than in the more developed countries. It may therefore happen that some groups enter the university with the preconceived idea that they are hardly likely to complete the course. In theory, a scale can be imagined, at one end of which the university is seen as having meaning only as a full cycle ending in graduation, while at the other end it is visualized from the very moment of admission as an ante-room in which the student will stay only just long enough to enable him to find employment. Between these two extremes, there will probably be innumerable intermediate images, which will in fact be those most commonly found. The question of major interest, however, is how they are distributed among the various social groups.

Certain studies substantiate the foregoing hypotheses. In Central America new entrants were asked how long they expected to take to complete their studies. It was surprising how high a proportion estimated the probable duration of their courses at eight, nine and ten years. If from the very outset their vision of the future is so vague and implies such a low standard of performance, it seems reasonable to assume that at bottom they have really very little idea of completing their studies or assuming a commitment to do so.

The inference is that university performance is strongly influenced by the types of groups entering the university, over and above the mere increase in enrolment itself; and this would account for the variations indicated in the preceding chapter. In a university where enrolment is low, but large contingents of students have functional images of the university, almost unrelated to graduation, or envisaging it as a very remote possibility, the level of performance will be poor; in another, where enrolment numbers are high but groups of the kind described are few, the position will be entirely different. This in turn suggests that the frequency of such groups must be linked not only to their social origin but to the existing type of occupational structure and the range of opportunities if offers.

4. STRATIFICATION AND PERFORMANCE

Now that the social composition of enrolment has been examined in the light of university censuses, the next question is whether the social origin of the students is higher among those graduating than in the student body as a whole. This would seem to be the logical assumption, although insufficient. empirical data are available to prove it. In the case of Montevideo, if the students are divided into three groups—upper, middle and lower—solely on the basis of their social origin,[11] and the distribution of total enrolment is compared with that of students in their last year, it will be seen that the position of the middle group is maintained (52.2 per cent as against 52.1 per cent), while that of the lower group appreciably deteriorates (from 18.5 per cent to 14.5 per cent). Within this lower group, the percentage reduction is much larger still in the case of manual workers' sons (from 9.5 per cent to 5.8 per cent). Since the stratification comparison is being drawn between the whole student body and the students in their last year, not between first-year and last-year enrolments, the decrease is considerable, and where working-class students are concerned almost halves their share in total enrolment. This is very much like the type of discriminatory selection that takes place at the secondary level. Studies on the Universidad de Buenos Aires, however, suggest that the discrimination is less marked there than in Montevideo.

It is difficult to be sure how far these conclusions are applicable to Latin America as a whole. As absolute income levels are much higher in the River Plate basin than in the rest of the region, and State universities in that area provide education entirely free of charge, there are grounds for supposing that the influence of stratification on performance and drop-out must be stronger elsewhere.

On the other hand, the hypothesis that drop-out does not differ very greatly from one stratum to another is also tenable. Germani and Sautu[12] note that students from the upper and middle income groups represent a much higher proportion of the university potential in their social strata than students in the lower income brackets. Hence they may be assumed to form a less homogeneous body than those in the lower group, and to possess "mental capacities which vary more widely, and whose average level, for that very reason, is likely to be lower". In all probability, students from the lower strata constitute more homogeneous groups, with higher average levels of mental capacity and motivation.

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[11] Jean Labbens, "Las universidades latinoamericanas y la movilidad social", in *Aportes*, No. 2 (October 1966), Paris, Instituto Latinoamericano de Relaciones Internacionales, pp. 77-78.

[12] Gino Germani and Ruth Sautu, *Regularidad y origen social en los estudiantes universitarios*, Universidad de Buenos Aires, Institute of Sociology (Buenos Aires, 1965), p. 59.

This assumption seems to be borne out and amplified by other considerations. The primary and secondary schools are highly selective; it may logically be assumed that pupils who overcome the economic, social and cultural handicaps deriving from their social origin and succeed in reaching the university must be a fairly select group, composed entirely or almost entirely of students with relatively outstanding mental capacities and powerful motivations.

5. THE UNIVERSITY AND SOCIAL MOBILITY

Although it is difficult to form a complete idea of the influence of the universities on social mobility, it would seem that at best their function in this connexion is very limited. In addition to the fact that secondary education of the academic type is accessible to so small a proportion of the population, it must be taken into account that there is scarcely any Latin American country in which technical education at the secondary level is a gateway to the university, and the lack of higher technical institutes makes it a blind alley. Thus, it is virtually impossible for groups from the lower strata to complete their technical secondary education, enter gainful employment, and, once they can support themselves, pursue higher studies.

Undeniably, if technical secondary schools gave unduly easy access to higher education there might be a risk that pupils would attend them for that reason alone; but it is nonetheless true that opportunities of mobility would be greater than at present.

The selection system, differential drop-out and the lack of institutes of technology conspire to minimize the contribution to social mobility made by higher education, i.e., in practice, by the universities.

This does not mean that their contribution is negligible, but it should be borne in mind, as a salutary corrective to many illusions that have been cherished in this connexion, that in Latin America it is the structural barriers to mobility which are of decisive importance, and there is very little that the university or educational system can do about them. What enhances the role of the university as a vehicle of social mobility is the fact that for certain groups it is almost the only means whereby they can maintain their position in the social strata and entertain some hope of moving upwards. It is the rigidity of social structures in Latin America that makes the university appear much more dynamic than it really is.

G. Operation of the system

1. UNIVERSITY GOVERNMENT

(a) *Autonomy*

Few problems have aroused so much controversy in recent times as university government, and few lend themselves to so much muddled thinking. All this controversy and confusion is inextricably interwoven with politics, since to discuss how the universities are or ought to be governed is tantamount to discussing one aspect of the distribution of power in the society concerned. Hence it is essential always to take into account the actual operation of institutions, not merely the laws and regulations which formally define their terms of reference.

In everything connected with the operation of the universities a basic part is played by the problem of autonomy, even if it is not mixed up with concepts that have really nothing to do with it. Accordingly, it must be discussed at the outset.

In one sense, autonomy hovers between some kind of self-government and independence. Both from the legal and from the practical standpoint, however, complete independence is hardly conceivable. A university is part of a community and as such depends upon it to some extent. Hence its autonomy consists in the decision-making powers which society as a whole cedes to the university community. From this point of view, autonomy and academic freedom, which are sometimes regarded as synonymous terms, are not at all the same thing, as history shows. It has been pointed out that an autonomous university may deny academic freedom to some of its members (as Oxford did in early nineteenth century), and one that is not autonomous may safeguard academic freedom (as did the Prussian universities in the time of Humboldt).[13]

It may possibly happen that at a given historical juncture academic freedom is inconceivable without autonomy, but this is no justification for confusing the two concepts. Autonomy has always been based on the idea that the universities have certain duties to the community which supports them, but that unless they are guaranteed certain privileges they cannot discharge those duties satisfactorily. It is their function, and nothing else, that gives warrant for their privileges. Hence the wide variety of forms taken by autonomy in the past, and the difficulty of classifying them.

Given this premise, it seems clear that the substance or content of autonomy can be defined either in terms of the fields it covers or in relation to the social powers vis-à-vis which it is established.[14] This is not a superfluous distinction, for if every power ceded to the university is a power of which one or more other agencies of society are partly or wholly deprived, the consideration of both aspects sheds light on the nature of the process and provides a basis for study of the various degrees of autonomy.

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[13] See Eric Ashby and Mary Anderson, "Autonomy and academic freedom in Britain and in English-speaking countries of tropical Africa", in *Minerva*, vol. IV, No. 3 (spring 1966), p. 317.

[14] These distinctions are largely drawn from Antonio M. Grompone, *Universidad oficial y universidad viva* (México, 1951, 1963).

As regards its content, autonomy may be administrative, academic, and/or financial. Administrative autonomy involves or may involve the power to appoint and dismiss administrative and general service personnel, establish regulations to govern appointments, performance of duties and separation, etc. From this standpoint, conditions in Latin America vary widely. In some countries administrative personnel in State universities are appointed and dismissed by the central Government, but elsewhere this is the exclusive prerogative of the university authorities. Generally speaking, autonomy in this respect is less important than the types of autonomy described below, to which it is often merely an appendage.

Academic autonomy is the most important of all, and constitutes the very core of an autonomous university. Basically, it implies power to: (*a*) select teaching and research personnel; (*b*) select students; (*c*) formulate programmes of study; (*d*) formulate research programmes. It may include many other powers, but all of them—for example, approval of syllabuses, establishment of disciplinary regulations, etc.—would be in one way or another implicit in those listed.

The selection of the personnel responsible for teaching and research is an essential and intrinsically non-controversial aspect of autonomy. It is possible to imagine a university without this power, but it is quite impossible to suppose that such a university could be autonomous. What is a moot question is whether the university staff may include individuals whose ideas run counter to the régime in force in society as a whole or who belong to banned organizations or parties. Such cases may and indeed do arise, in a wide variety of forms, but the general principle seems unmistakable: the university can appoint anybody it likes to a teaching post, provided that the freedom of the students and the university standards are respected and that no sort of political discrimination is tolerated. The teacher's responsibilities as a citizen subject to the rules of the society in which he lives are an altogether different matter.

The right to select students which is implicit in university autonomy raises delicate problems. Even if a State university is free to establish the university standards on which the selection process is based, how far can it be allowed to decide the question of the number of students to be admitted? In this last respect, the idea of autonomy must be reconciled with the fact that the university is a public service. Since the hopes and expectations of innumerable individuals and families depend upon its accessibility, the university alone cannot reasonably be authorized to determine the scope of the service it renders to the community.

The last two powers mentioned above seem indispensable requisites for autonomy. A university that is not completely free to draw up its programmes of study and research is not autonomous in the true sense of the word. Even if it is assumed that in some cases the university may receive teed financial aid—for example, in its research work—final decisions concirning the programmes and their implementation must be in the hands of the university, if its autonomy is to remain intact.

A much more thorny problem still arises in connexion with the formulation of study programmes. There is no difficulty as regards curricula and syllabuses, types of examinations, etc., but importance does attach to the duration of the courses, especially in countries where there is only one university that awards degrees in a particular branch of study, since these degrees give their holders a monopoly of the exercise of their profession. The question is whether the university ought to be in a position to reduce the number of years of study required until standards are greatly lowered, or—as is much more likely—to increase its demands in this respect. If the degree obtained is not merely a gateway but the one and only means of access to certain branches of activity, an increase in the number of years of study will tend to aggravate the monopolistic situation and to rule out some of those who at present have a chance of competing. Two considerations must therefore be weighed. The first of these—i.e., what is required if the programmes of study are to provide a satisfactory level of training—is of a strictly academic nature; but the second—the possibility of entering professions open only to limited numbers—is a burning question for the whole community, and especially for those who hope to train for the professions concerned. It seems all the more important inasmuch as these potential candidates can have no voice in university government. If the government of an autonomous university is not the exclusive responsibility of the teaching staff, it will be in the hands of teachers and graduates, with or without student participation. According to currently accepted principles, students entering the university under a given programme have the right to continue under it. In other words, none of the sectors concerned in university government is adversely affected by an increase in the length of the courses, while for some it implies positive benefits. These considerations account for the existence of what are apparently rather strange provisions, such as that in force in Uruguay until the 1958 Act was passed. The university authorities enjoyed full autonomy in establishing curricula, but in order to lengthen the period of study they had to obtain special authorization from the Legislature. Perhaps the Legislature is not the most appropriate organ to grant authorization of this kind, but the general principle seems sound. Matters such as these should be discussed with non-university authorities that can represent the general community interests involved, as distinct from strictly academic interests. In so far as the distinction can be drawn, purely academic matters seem indubitably to fall within the sphere of university autonomy.

The last of the fields to which university autonomy relates is that of finance. In present circumstances, complete financial autonomy is inconceivable.

If State aid is of growing importance in the countries with the longest traditions as regards self-sustained universities, what can be said of Latin America's public universities, which are entirely State-supported? Even the private universities of the region receive State subsidies or are exerting steadily increasing pressure to obtain them. This dependence upon the State has led the Latin American countries to devise legal instruments making the universities as independent as possible in respect of the amount of the resources at their disposal, for example, by assigning them a fixed percentage of the national budget. Such procedures involve serious drawbacks, since they disregard the fact that the rate of increase the funds required to cope with the expansion of enrolment far exceeds that of the over-all national budget;

nor is the concept of the national budget and its sum total, on which the percentage allocated to the universities must be calculated, likely to give rise to any less discussion than would direct consideration of university finances. Hence, in this problem, as in so many others, everything depends upon the particular university's real share in the distribution of power.

Many universities have secured what seems to be a feasible compromise that does not undermine their autonomy, i.e., freedom to handle funds. This means that university resources are allocated as a lump sum or broken down only by major items, and their internal distribution is left to the university itself. Many writers, and the International Association of Universities, regard freedom in the handling of funds as a *sine qua non* of university autonomy.

From the standpoint of the powers in relation to which autonomy is established, all the powers existing in a given society may be taken into account. The usual practice, however, is to examine only the university's legal relations with the classic powers of the State.

In Latin America autonomy is and always has been defined primarily in relation to the Executive, for the very simple reason that in the past it was the Executive that held the reins of the university government. In the nineteenth century almost all the universities of the region adopted the Napoleonic model, which, in conjunction with Latin America's historical background, placed university government under the national authorities. The acquisition of autonomy has consisted precisely in the gradual invasion of the fields of competence formerly pertaining to the Executive.

It is much less common for autonomy to be defined in relation to the Legislature. What is more, writers like Atcon have noted that whereas the university claims a high degree of autonomy in other respects, it allows its officials to be subject to regulations closely resembling those of the civil service in general. Consequently, the criteria applied in selecting administrative personnel leave much to be desired, and the qualitative level of such personnel is very low. Much the same thing happens in the case of the teaching staff since equal-remuneration systems prevent the recognition and retention of the best talents. Disregarding for the moment the question of the grounds for the foregoing criticisms, which will be discussed later, it is true that these and other problems derive from the fact that autonomy has seldom been defined in relation to the Legislature. Nevertheless, some of the basic requisites for autonomy, such as the power to select and appoint personnel, imply the establishment of rules which under many systems of government are in the hands of the Legislature. This explains why in Uruguay, where more progress has been made in incorporating university autonomy into the Constitution than anywhere else in the region, it is also defined in relation to the Legislature, and the formulation and application of certain general staff rules are made the prerogative of the university itself.

(b) *Formal autonomy and real autonomy*

The above remarks imply a formal analysis of the nature and *modus operandi* of the regulations governing the distribution of powers. In Latin America, it is usually these that first strike the eye, since the struggle for autonomy has been and to a large extent still is a struggle to create legal machinery which will establish and safeguard it. Important as it is, however, this is only one facet of the problem—the one to which most attention has been given. The analysis of real autonomy would appear to be more important, since it is a question which cannot be shirked, and on which only piecemeal studies are available.

At this point a digression seems necessary. In Latin America universities are usually classified as autonomous or non-autonomous according to the constitutional or legal provisions by which they are governed. Viewed from this angle, there are innumerable universities outside the region which are classified as non-autonomous when in practice they are just as autonomous as those of Latin America, or more so. The French universities, for example, are subject to the administrative authority of the State. According to one writer, the combination of administrative inflexibility and freedom to the point of anarchy within the framework established by the regulations is not only typically French but typical also of the universities.[15] The Executive is responsible for the appointment of teaching staff, but in practice a co-opting system is applied, whereby the professors submit nominations to the Executive, which invariably appoints their nominees. Once appointed, university teachers enjoy the highest degree of autonomy imaginable, even in relation to the faculty to which they belong.

In all probability, if a survey were made of the situation of universities throughout the world, it would be found that their privileges in respect of autonomy are explicitly and formally recognized in very few cases, but are accorded in practice in a great many. Conversely, there are many countries in which formal autonomy exists, but not real autonomy. It should not be overlooked that autonomy derives much more support from tangible power and the backing of public opinion than from legal regulations, even if the content of these is relevant.

As regards real autonomy, it will be seen that in addition to the authorities recognized by the State there are many other groups which seek to mould the universities for their own purposes and in relation to which the problem of autonomy again arises. Before discussing this point, it will perhaps be worth while to go briefly into the reasons why the question of autonomy has been and still is so important for the Latin American universities.

One of the reasons adduced is the high degree of politicization which leads Governments to use the universities as an instrument of political domination. In those societies where there is no clear-cut dividing-line between the educational system—or practically any of the other institutional sectors of society—and the political system, the only way to establish such a dividing-line is through autonomy, and the only means of making this effectual is to set up legal machinery for its protection. Granting that this is an important motivation, it can hardly be the only one, however. If no other existed, the stronger and more effective were the threats of intervention on the part of the political authorities, the greater, presumably, would be the efforts made to safeguard autonomy, and *vice versa*. The case of Uruguay, however, shows that this correlation is far from perfect. Not only has there never been any government interference in practice, but under the 1917 Constitution it was the political authorities themselves that empowered the university to take various forms of legal action previously subject to their approval, because they considered these powers to be implicit in university autonomy. Yet nowhere else in Latin America does the law guaranteeing university autonomy go so far as in Uruguay, where it is impossible to disregard autonomy without either changing or violating the political Constitution by which it is guaranteed.

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[15] Raymond Aron, "Quelques problèmes des universités françaises", in *Archives européennes de sociologie*, vol. III, No. 1 (1962), p. 105.

Another presumable reason is that the function of university education as a channel of social access and upward mobility is not quite the same in Latin America as elsewhere. For some social groups which are not well off and have no political pull, even though their levels of living may be quite high, the university is the only relatively universalistic vehicle at their disposal. Where the clientele type of social system is so important, special significance is acquired by a system which in the first place goes beyond those already existing and in the second place opens up possibilities of incorporation in other new systems. For this reason it is very important for some social groups that the institutional autonomy of the university should be strengthened.

Lastly, experience goes to show that the universities can be a valuable channel for political groups which are in a minority or still have only a secondary position in the over-all power structure, and which aspire to take over the political power or to improve their own status. In specific circumstances, the universities may appear as instruments of these groups, and university autonomy as their most formidable weapon. This state of affairs tends to justify intervention on the part of the political authorities, which, in its turn, warrants reactions in the direction of autonomy. Needless to say, at this level the issue has really nothing to do with autonomy, although both sides use it as their watchword, since they both try to use prerogatives which are supposed to be justified on academic grounds in the service of causes that are entirely unacademic.

These motivations help to explain why autonomy is such a crucial problem for the universities. They are not the only reasons, however. In addition, there are the considerations indicated above which make autonomy a necessity in any social system. The aim here has been to investigate the factors that account for the particularly acute form assumed by the problem in Latin America. Apparently they are all linked to the special importance enjoyed by the university as a power centre; this point will be touched upon again in the context of student movements. It is a feature which, in its turn, can be justified only in terms of Latin America's social and political structure, and cannot be regarded as a kind of pathological symptom peculiar to the university.

These assumptions seem still more likely to be sound in view of the fact that the university—to keep within the bounds of the educational system—is no more than the most obvious illustration of the problem of autonomy.

Primary education too enjoys a considerable degree of *de facto*, although not *de jure*, autonomy in Latin America, as a result of the great power wielded by the primary teachers' organizations. The difficulties of introducing any change into primary education are no less than those attendant upon change at the university level, although the means by which a sphere of institutional autonomy is established in primary education are less socially visible than in the case of the university.

(c) *The autonomy of the universities and the distribution of power*

Since it is impossible to find general formulas for autonomy, some guiding principles will have to suffice. Universities obviously must have a considerable degree of autonomy if they are to be universities but at the same time they must be closely bound up with the society of which they are a part. This means that the universities, inasmuch as they represent intellectual and scientific activity, must take part in establishing goals for the community. In a society which is intended to be pluralist in nature, their effective participation is just as essential as decision-making, which obviously, in the last analysis, can be carried on only by political bodies. Moreover, at the highest level at which they operate, the universities must fulfil the function of social criticism, that is to say, they must subject the society to which they belong to a critical analysis. Such criticism cannot and should not be confused with partisan criticism. Nevertheless, in a democratic society, and particularly the Latin American societies—where other media for expression are so sparse and inadequate—the universities have an important part to play which is in the interest of society. Hence, this critical analysis does not—and indeed cannot—exclude a critical examination of the political system or of any other problem, so long as it is made at the purely scientific level and goes hand in hand with complete freedom to express opinions or dissent. As the modern university cannot develop all its functions except in a truly pluralist society, it could not conceivably use its autonomy to demand pluralism for society and impose conformism in its own ranks.

Perhaps the best formula is that devised by Medina Echavarria:[16] what is needed is not a "cloistered university" nor a "militant university" but a "participating university". Hence the importance of underlining its function as an instrument. The university is not a sacred institution justified by the mere fact of its existence, since it is an instrument of society; that being so, it seems reasonable that it should discuss all problems affecting society. Autonomy in that context is a means, a valuable and inescapable means, not an end in itself. What generally happens is that the most diverse official and non-official groups, in the Government or the opposition, tend to use it as an instrument, not of the community at large but of their own individual groups. In this struggle to make use of the university, legal instruments may have great importance in certain circumstances and virtually none in others; but to use the university in the interests of certain social and political groups, whether opposition or government, vitiates the very meaning of autonomy and of the university itself.

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[16] José Medina Echavarria, "La reforma de la universidad latinoamericana", in *Filosofía, educación y desarrollo*. Textos del Instituto Latinoamericano de Planificación Económica y Social (México, Editorial Siglo XXI, 1967), especially pp. 168-169.

In the light of these considerations, it has been pointed out that the authority of the university is a moral authority. Since the power of legal enforcement is the prerogative of the State alone, and since it is very difficult for the universities to draw support from an association with political or pressure groups without losing the characteristics that justify their autonomy, it must be concluded that only by fortifying this moral authority can the university preserve its autonomy. In this context, paper guarantees are a snare and delusion. Indeed unless the role of the university is understood and valued by the other social groups, and unless it is capable of imposing a positive image of itself to the most important of these groups, no legal texts will save it from a subjection which would prevent it from fulfilling the critical functions that are so vital to society. If there is any accuracy in the assertion that the above factors are making the problem of autonomy more acute in Latin America than in the rest of the world, it will be understood also why it is more difficult for the Latin American universities to maintain an ideological neutrality or a scientific bias in the midst of so many conflicting forces. Universities cannot play their proper role in society, however, if they take shelter behind an autonomy which may lead to isolation, because complete isolation is impossible and can end only in the loss of their autonomy vis-à-vis other groups.

The autonomy of the university must be balanced by its responsibility. Inasmuch as autonomy is an instrument and not an end in itself, the universities must use the special privileges with which they are endowed in order to fulfil the functions assigned to them by the community. For this very reason, the university is a dynamic concept, destined to change with changing social circumstances. Thus, it is inconceivable in theory, although it does happen in practice, that the university should use its autonomy to oppose or keep aloof from the measures to achieve the necessary co-ordination of the national education effort as a whole and its integration in an over-all plan.

(d) *University government and its structure*

The government of internal university affairs should be given careful comparative study. That is impossible for the time being, but it is worth considering a few related questions of fundamental importance.

Nearly every form of university government is or has been in use in the region. Some universities—particularly private ones—are governed and administered by independent bodies; others are managed by teachers and their representatives, either on their own or jointly with graduates; and in others again, government is the joint responsibility of teachers, graduates and students. In Europe and North America the students' participation in the government of university affairs is usually considered the most interesting and curious feature of Latin American universities. Because this is so, it is no less interesting to note that no scientific studies have been carried out by universities in whose government the students are represented which contain an objective analysis of student policy and its practical results.

Student participation may consist merely in the right to express opinions. The students have the right to speak but not to vote in the university bodies.

In other cases where the students have the right to vote their representatives may be only one in twenty, or they may be as much as one third of the university body. There are also universities in which the students elect their representatives from among the graduates—this is known as indirect student representation—and others in which there is direct student representation, the latter varying only in the number of years the students must have attended the university before they may elect representatives or be elected themselves.

It is generally considered that the so-called Córdoba movement of 1918 established the Magna Carta of student aspirations in the Latin American universities. From Argentina the movement spread to Peru, and thence to virtually all the universities. It should be emphasized, however, that the movement and its basic platform originated much earlier, at the Inter-American Student Congress which took place in Montevideo in 1904. Moreover, Uruguay's university legislation of 1908 established indirect student representation in all faculties.

A detailed analysis of that movement—which cannot be made here—would show that this complex phenomenon was not confined to the university, since it had support from outside in rising political groups. In fact, the triumph of university reform at Córdoba could not have been achieved without the backing of certain groups in the Radical Party; and its subsequent loss of momentum can be explained only by the decline in the importance of those groups. Until then, the university had been closed to the middle-class groups, which in both Argentina and Uruguay began to occupy a strategic position at the beginning of the century. The movement was aimed not only at opening the university to new groups but also to giving them access to the profession of university teaching. It cannot, therefore, be explained in terms of an autonomous student movement.

Be that as it may, there is no doubt that this movement laid the bases for an ideology which its supporters regarded as being linked to a radical reform—as it most certainly was at the time it was formulated—and which could be constantly broadened and adapted to the new conditions of society. This ideology paved the way to co-government, that is, real student representation in the government and administration of the university.

On a purely rational plane, it is hard to defend co-government. It is understandable that the students should be consulted regarding the services most directly affecting them (dining-rooms, scholarships, etc.), but it is difficult to justify their participation in the drawing up of curricula and programmes, or their havinga say in teaching appointments, etc. The establishment of a university policy in all these matters presupposes that those who formulate it are competent to do so. By definition, students would appear to lack this competence. There is another factor, too: as an organized group, the students may have recourse—apart from exercising their legitimate influence in co-government—to traditional methods of protest (strikes, etc.). This gives them much more power than is theirs by law. In extreme cases—and some universities seem to be approaching this point—it would be very difficult to obtain a teaching post, and virtually impossible to become rector or remain in that post, without student approval.

It should be borne in mind, however, that this system came into being and has developed because of certain characteristics of the Latin American universities which have often led to their becoming relatively static institutions lacking in dynamic drive when in the hands of the teachers. In that respect, student intervention, although it has brought more drawbacks than advantages, gives the universities a dynamic force which they would probably otherwise have lacked.

The publicity given to student action in Latin America has done much to distract attention from the important participation of graduates in university government. This feature is almost as unusual as that described above and it is of special significance. In universities where this system prevails, the source of power of the graduate representatives—or rather of the professional groups or associations which elect them—is based on two factors: their legally recognized position in university government, and the fact that most of the teachers are engaged on a part-time basis, that is, they continue with their professional activities and are to some extent dependent on the respective associations. This gives the professional associations far greater power than they would have merely owing to the fact that one third or one quarter of the members of the university board are their representatives. This again is not the result of fortuitous circumstances. Since universities confer degrees which enable graduates to exercise their professions under a system of monopoly, it is only logical that the professional associations should take a keen interest in university government. If the causes can be explained, however, it is quite another problem to determine the likely effects. Some authors [17] have used well-founded arguments in support of their contention that the professional associations are largely responsible for extending the programme of studies and, in general, for the measures designed to limit possible competition from future graduates. This point deserves study because, apart from being linked to the structure of the Latin American universities, it would explain some of the factors that have caused them to be so lethargic about helping on the process of change in their respective countries.

If these considerations are valid, it may be concluded that university government should be completely in the hands of the teachers, as it is nearly everywhere else in the world, or include only a minimal representation of students and graduates. These reflections also indicate that too many favourable changes cannot be expected from a reform of the system of government unless the whole university structure is reorganized. In other words, changes in the system of government become a vitally important step if they are part of a planned reform of the whole university; otherwise, the shortcomings which gave rise to the present strange system may recur.

Private universities are a good illustration of this. Despite all efforts to keep control in the hands of bodies which originated outside the universities, there are a number of factors which are exerting pressure to bring about the same changes as in the State universities. Demands for student participation in government, for example, are beginning to be made quite as energetically, and sometimes through equally violent means, as has ever been the case in the State universities.

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[17] "Las universidades latinoamericanas y la movilidad social", op. cit.

2. PROGRAMMES AND METHODS OF WORK

(a) *Centralization and dispersion*

The Latin American universities were originally built up around the traditional disciplines: law, medicine and theology. The newer universities did not include theology, but law and medicine were the core of them all up to the end of the nineteenth century.

Around the turn of the century there was an evident need to expand the universities so as to include other activities which had attained, or it was hoped would attain, the same importance as the first two disciplines. Thus, engineering, architecture, agronomy and veterinary medicine were gradually added. The other subjects incorporated later included accountancy, which was already taught at schools outside the university. These successive additions followed no rational plan, although they may have responded to an accurate perception of the needs of society. There was seldom any discussion of whether these activities should really be incorporated in the universities, whether they might be grouped in technical institutes which would in turn serve as a nucleus for further expansions. Because of the university's prestige as the only conceivable institution of higher education—which it has never lost in most Latin American countries—all the groups concerned naturally pressed for university-level training, and their claim was often accompanied by bitter discussion as to whether or not a doctor's degree should be conferred in the new specialities. The schools of social service are the last to have undergone such a process.

New disciplines have emerged in recent years, many of them being taught at the intermediate university level or in short courses, as they are sometimes called.

Although this continual expansion of the curriculum, which is particularly noticeable in the State universities, responded to the countries' needs, it was generally effected without changing the previous structure, or simply by adding to it. Hence the chaotic organization of many universities. They are not so much universities as a number of very loosely-linked faculties and schools—in the Latin American sense of those terms—which are, in theory, under the yoke of the central authorities, but are really separate domains.

Under the system prevailing hitherto, which is now beginning to be modified, each faculty establishes its courses of study and the corresponding curricula, subjects and programmes of study; it appoints the teachers and even has it own research institutes. The action of the central authorities in these areas does not exist even as a legal fiction, or is more theoretical than real. Consequently, the system is extremely costly, both financially and in terms of the utilization of human resources, and there is an almost complete lack of co-ordination within the university. For example, elementary economics is generally taught in the Faculty of Law, as part of the students' training for the careers of lawyer or diplomat; in the Faculty of Economics and Administration; and also, in recent years, in the courses on architecture, engineering, veterinary medicine and agronomy. Each faculty has its own teacher and programme of study. There are as many programmes of economics as there are courses, not because the economics courses are adapted to the needs of the different disciplines but because each teacher adopts an individual approach. Proof of this is that when one teacher lectures on economics in two separate schools or faculties his programme is practically identical in both cases. This overlapping is extremely wasteful financially, and it is quite pointless from the standpoint of making full use of human resources because there would hardly be enough specialists in economics to ensure a satisfactory level in so many independent courses, and if there were, it would be better if they worked together instead of separately.

This situation is constantly recurring. It is by no means uncommon to find research institutes for the same science in two separate faculties, sometimes concealed under slightly different names. In countries where resources for research are so meagre and qualified personnel so scarce, this dispersion of effort tends to jeopardize any chance the universities might have of making a serious contribution to economic and social development.

This state of affairs is linked to a much more general situation in the Latin American universities. The university as such virtually does not exist; what are really important are the faculties or schools, and they in their turn are often little more than a group of separate professorships, with a few institutes which are usually under their authority. Such a structure is not only federative it is positively feudal; the faculties jealously guard their independence, which they justify by various forms of ideological argument but basically in order to maintain the independence of the professorships and institutes. It is as though every person reaching a certain level in a faculty has established a domain of his own which no other authority may invade.

The consequences of this system are particularly serious in Latin America because of the shortage of human and financial resources. Thus, there is only one university worthy of the name in each country, or only a few, and among them academic competition is more apparent than real though there may be keen competition for funds. Therefore, it is virtually impossible to expect that merely because there are different universities with different professorships there will be a rivalry between them that will infuse dynamism into a system which otherwise can be changed only when the holder of a professorship dies.

Except in a very few areas, the professors and students are loyal to their faculties and schools, and only rarely to the university. Under a system where, save in a few cases (which are nevertheless becoming more frequent), the students really enter the faculty or school of their choice and not the university as such, within which they would then find their proper place, both students and professors tend to feel deeply about the problems affecting their particular faculty or school, since they are the only real problems with which they normally come into contact.

A system of this kind obviously has serious implications for a reform of the university structure. Although dispersion makes it easier to introduce changes in a faculty or a school than in the university as a whole, the changes themselves are insignificant.

What is required, therefore, is an over-all reform designed to change the structure of the whole university, with the reform plan embracing all the existing departments, which may acquire very different degrees of importance. This, however, is precisely the problem when the previous system is already firmly established. It would seem less complicated to introduce changes in fairly new universities than in those where the tradition of dispersion and separation is of very long standing.

Some attempts to strengthen the legal position of the central university authorities in countries with a long tradition of independent faculties and schools have met with formidable opposition. These institutions tend to regain lost ground and to restore the traditional system. Under the system whereby professors, students and graduates are loyal to their respective faculties and schools, there is a tendency to revert to a kind of federation of faculties and schools, whatever the structure of the central university government. University government is possible because it is based essentially on a complex dynamic pact by virtue of which the representatives of one faculty or school vote for measures required by another under reciprocal arrangement. In the circumstances, there is and can be no real university policy of a national and over-all nature; what appears to be such is the sanctioning by the central authorities of the policies defined by each of the faculties or schools.

In this, as in every other respect in Latin America, care must be taken not to confuse real progress with progress on paper. The imperative need for reform has led to the setting up of institutes and departments with centralizing functions in some universities, and has shown the advantages of having such bodies in all of them. Yet in such a traditionally decentralized structure, which must have its deep-rooted causes, what is likely to be achieved is the formation of new domains as unconnected and as unco-ordinated as those already in existence. There is a danger, although this may seem paradoxical, that within a few years the problem will be how to co-ordinate the bodies which were established for the very purpose of carrying out co-ordinating functions.

(b) *University reform at the intermediate level*

It should be clearly understood that the intermediate or shorter training referred to here relates to careers for which university preparation is necessary, since there are some intermediate careers or professions for which training is strictly at the secondary level. Except in the new universities, the shorter training courses have either been given in new schools created for the purpose or they have been incorporated as a supplementary feature in the traditional faculties; but they have done little to alter the classical structure, although the costs involved are such as to have created a climate of opinion in favour of co-ordination.

Higher or intermediate university training is a long and costly process which must be regarded as a basic social investment in development. When the merits of individuals as such are being weighed, a longer and more comprehensive training generally means higher calibre; but in terms of the contribution to economic and social development, the professions requiring a shorter period of preparation have an equally important part to play. This fact has not always been recognized in Latin America, where they are regarded as belonging to a lower category and are sometimes called "semi-professional" careers. In view of the high prestige attaching to the term "professional" in Latin America, this description has helped to maintain the barrier between the old professional activities and the new, which, however, are becoming more widespread because of their increasingly obvious importance in development.

Various factors have led to the emergence of these new careers. First, the Latin American societies have come to realize that they lack a number of professions; secondly, there are no auxiliary professions to support some of the traditional professions. All too often, there is no satisfactory ratio of higher-level to intermediate-level personnel, even though in view of the way in which professional activities are organized in the modern world, the auxiliary professions are most valuable. Medicine is a case in point. In many countries, the acute shortage of doctors is shown by the small number of doctors compared with the total population and their internal distribution. In others, such as the River Plate countries, the number of doctors in relation to needs is fairly satisfactory. In both cases, however, the auxiliary professions are practically non-existent, there is no university training for them, or their ratio to the medical profession is minimal compared with the developed countries. A situation may arise where there is a surplus at one level and a shortage or complete lack at another, although they may complement one another. In that case, intermediate-level activities may be carried on either by higher-level personnel, which is an obvious waste of resources, or by persons without the necessary training, which is undesirable from other points of view; or again the two things may occur together.

In addition to the two causes mentioned above, which relate to two different kinds of training, there are many other supplementary or equally important factors which have led to the introduction of one or the other of these types of training. In some universities where preparation for the traditional careers is long and a large proportion of the students enrolled drop out before completing their training, it has been felt that the shorter courses of study might, with useful results for society, attract those members of it who cannot stay so long at the university. This aim has often been defeated because when the new courses are incorporated without radically modifying the whole structure, they tend to have the same shortcomings as the classical disciplines, i.e., long training, dropping-out, etc. Dropping-out is due to causes inherent in the structure of university education; it is hardly possible to reduce it by channelling the students into the relatively shorter courses if the structure remains unchanged. In addition, the same argument implies an inadmissible reduction of the importance of the intermediate courses, which are gradually relegated to an almost residual position.

Instead of trying to determine what part the short courses can play in taking the overflow from the traditional courses, it would seem more reasonable to aim at short courses that will serve as a step towards higher university levels. Just as certain types of intermediate training at the secondary level in Latin America make it difficult or, in practice, impossible to reach a higher educational level, there is no easy way from intermediate to higher training in the university. This is due basically to the failure to grasp the need for intermediate-level courses enjoying the same importance as all other types of professional training from the standpoint of economic and social development, and to the fact that this system serves to preserve the traditional scale of prestige, despite the changes required by circumstances.

In this respect, the question of the shorter courses of study has not received the attention it deserves, and it probably never will until an attempt is made to reform the whole university structure.

(c) *Plans, programmes and methods*

Apart from the lack of intermediate degrees, it is a striking fact that however long the course in which a bachelor's or a master's degree (*licenciado* or *doctorado*) is obtained, there are no intermediate stages to mark the completion of a shorter but in itself significant period of preparation for certain activities. Moreover, the duration of the studies required before a student obtains his degree is excessively long compared with the developed countries. These two features are closely interrelated. Four years after entering the university, assuming that he has completed the programme of study, the student is still an undergraduate in Latin America, whereas in most countries he would be carrying on post-graduate studies. Five or six years' preparation for a lawyer and six or seven for a doctor or engineer are the normal training periods envisaged in Latin American programmes of study. In practice, they are much longer. Uruguay may be considered an extreme case, but it may give some idea of the situation which occurs to a greater or lesser degree in almost the whole region and is even more acute in Central America. There the 5 years envisaged for agronomy really extend to 8.5; the 5 years for architecture, to 9.5; the 5 years for economics, to 10.7; the 6 years for law, to 11.8; the 6 years for medicine, to 12; and so on.

Such excessively-long courses tend to make the university still more selective. The levels of training vary considerably in Latin America, and in some universities they are recognizably higher than in others. In any case it would be difficult to maintain that even in the best universities the level is in any way exceptional, considering how long the studies are expected to take, and particularly their actual duration. That the courses are so long does not mean that the studies are particularly intensive, but rather that they cover a large number of both main and suplementary subjects in the various fields of training. When curricula are reframed, as they must be in order to adapt them to the changing requirements of professional activities, the reforms generally consist of additions to the curriculum, while subjects are rarely eliminated except when they have become relatively unimportant or involve little effort.

Moreover, the syllabuses for the subjects included in the curriculum are an extremely motley collection of all existing information, both main and supplementary, at any rate as it appears in the best known manuals and treatises. The essential objective of such teaching is that the students should store this mass of knowledge and repeat it at the right time, usually in examinations. The system is not really designed to make the student think for himself, ask questions, seek answers, or develop methods of thinking whereby he can use the knowledge he acquires as an instrument, and develop new knowledge. The basic tendency is for students to acquire knowledge of an established discipline and to memorize that knowledge. As a result, the students not only have little or no idea of how a body of knowledge is formed, but they know nothing about finding an answer to a question which is not already completely resolved in the texts they are using.

Irrespective of the difficulties this may represent in inculcating a critical and scientific approach, they clearly explain why the duration of the course is so out of proportion to the basic training it provides. Studies carried out on a part-time basis may have some bearing on the length of the period of study, but universities are so well adapted to this system that investigation has brought to light no very significant correlation between these two aspects. Another reason for the long preparation is the very liberal systems which allow the student to take the same subject several times, which vitiates the whole system of progression from one course to another.

The entire system seems to be based on the implicit assumption that the student will study only the essentials of what is required, and that he will not continue studying after graduation. What he needs, therefore, is a clearly-defined body of knowledge which he can memorize and which will equip him up to the end of his professional career to cope with any situation that may arise. This assumption in itself promotes its own fulfilment, since the student fails to acquire the habit of investigating, thinking or asking new questions; nor does he know how the answers were found to those which are presented to him as a prescription to be learned by rote. The high cost of acquiring this body of knowledge is an additional justification for such an attitude. The existence of this assumption is not imaginary, as is borne out by the extremely low proportion of professionals who update their knowledge or carry out research on their own, and by the poor role played by post-graduate courses in Latin American universities. The whole system seems to be based on the supposition that the university has a fund of knowledge to dispense, which is acquired through a long and difficult process, but once acquired yields lifetime benefits.

Such a system is in direct conflict with the need for flexibility among the high-level personnel of a changing and developing society, but at the same time it can persist because, in actual fact, the changes take place very slowly. This proves once again that the university system in Latin America is much more compatible with the structure of society in general, and that of employment in particular, than would at first sight appear. In practice, the vast majority of professionals derive a substantial income from their particular branches of activity, but these are seldom their only sources of income. Their divided activities make it difficult for them to study and update their knowledge, and it therefore becomes important that they should have a mass of cut-and-dried solutions to apply with more or less successful results. This is not an attempt to justify the system, but an indication that it has roots which go deeper than its historical or traditional origins.

Undoubtedly, the Latin American teaching tradition favours memorizing to the detriment of the scientific and critical approach; but this tradition is kept alive, with virtually no changes, by the combination of a great many factors.

Organizational reforms, centralization and the establishment of up-to-date institutes and departments are undoubtedly important, but they will achieve little unless they are accompanied by a sweeping change of attitude which will bring to the forefront the issues that have hitherto been relegated to second place. There is no need to stress the difficulties which such a transformation would entail, but very little will be gained without it.

For this process to be feasible, it is first of all necessary to take accurate stock of the problems of the university and of the nation, and to determine how the former can be adapted to the latter's needs. Reform in this sense is an internal maturing process which can be promoted but not created with outside help. Modernization cannot consist in the transfer of prescriptions which have given excellent results in societies at very different stages of development and with totally different social structures. Medicine is again a case in point. In countries where there is one doctor for every four or five thousand inhabitants, schools of medicine are established to train small teams of professionals by methods used in the more developed countries. These involve professional practices which can be successful only on the basis of a large number of ancillary staff and of laboratories, which are simply not available. The services of these professionals will reach only the top strata of the population. It seems that in many cases no allowance is made for the fact that the university education systems are compatible with the existing conditions of professional practice and level of development, and that the discussion regarding the "French" *versus* the "American" approach, which in so many respects has been settled in the developed countries, makes no sense if those conditions are not considered. Certain branches of the medical profession for which there is now little or no training in the developed societies may be the principal and essential objective in societies such as those found in Latin America. In the last analysis, the university's aim is not to prepare specialists who will be able to hold their own at an international meeting, or personnel who intend to emigrate to the developed countries, but to turn out persons whose preparation is adapted to the social conditions prevailing in the country. Once again it is interesting to note that the universities are more influenced by the abstract idea of a level of dignity which they try to maintain than by the notion of rationally serving society's ends. In the River Plate countries during the second half of the last century it was often suggested that intermediate professionals, or *officiers de santé*, should be trained as a means of raising health levels and fighting against the practices of witch-doctors and sorcerers. Many other Latin American countries are now in the same position. In neither case have the universities deigned to consider a step which they regarded as beneath the dignity of an institution of higher education. It is the same for doctors as for secondary school teachers: the preference seems to be for amateurs to attend to the wants of the broad masses of the population rather than for the university to provide intermediate-level training in response to imperative needs.

(d) "*General studies*"

Because of the deficiencies in the curricula of Latin American universities, the lack of centralization and co-ordination, and the absence of guidance services or the errors made by them, it became necessary to introduce what have been called "general studies". This may not be a very apt term, and it can be used to cover a wide range of diverse ideas.

Specialists are agreed that higher education should not incude only subjects of purely professional concern. All higher training should include a certain amount of basic general knowledge, which need not be the same for all disciplines; rather, the aim should be to make it compensatory: when professional training proper is essentially scientific some grounding in the humanities should be provided, and *vice versa*. Considering that no modern professional should be lacking in certain types of knowledge, this idea seems to be not only indisputably sound but consistent with the best traditions of higher education in Latin America, although, curiously, it is sometimes rejected as a notion that has infiltrated from abroad. Thus the best Latin American faculties of law in the last century assigned an important role to a number of general subjects which were not directly related to professional training.

The most controversial point is whether such general preparation should be provided along with the professional training proper or before it, and this is linked to the problem of when to start the strictly professional training. Many believe that a student should enter the university rather than a particular faculty or school; and that he should be given a general grounding in some basic sciences and then start his professional training. In this case, the general studies are placed at the beginning of his university career. But how far is a system of preliminary general studies, even at the university level, intended to compensate for deficiencies in secondary education? In theory, it is claimed that university education and secondary education cannot be conducted at the same level even if the subjects taught are the same, but if secondary education has been deficient or incomplete it will be difficult to prevent a decline in the level of university education.

It is not a question of solving the problem in absolute terms, however. If the position of the educational system is such that it would be best for universities to assume responsibility for "intermediate" studies, there is no objection in principle to their doing so. This indicates, however, that there are no general formulas which will fit all the Latin American countries; some require these studies, others need them less or not at all. Even were it agreed that all universities should provide a preliminary course of general studies, the nature of these courses would vary considerably.

The question is also related, as noted above, to the methods of selection of university candidates. If consideration is given to the complexity of all these features and the extent to which they presumably vary from country to country, it may be concluded that it would be difficult, and indeed pointless, to recommend solutions that should apply to all countries of the region. On the other hand, it seems reasonable to indicate some of the bases for such solutions. The need for studies that are not strictly [illegible]ofessional character seems to be undeniable. Their introduction where [illegible] do not already exist would constitute an important reform. Obviously, [illegible]ver, such an innovation would lose practically all its meaning if the general studies involved learning by rote as much as the other studies. One of the most important virtues that may be ascribed to general studies is the inculcation of a scientific approach and the habit of critical thinking.

3. THE TEACHING STAFF

(a) *Recruitment and system of professorships*

There are many crucial problems for the university in connexion with the teaching staff. Generalizations in this as in other fields are dangerous because the Latin American systems are so different, but some general features deserve comment.

The recruiting systems vary widely. Perhaps they might all be summarized as not always successful attempts to counteract the influence of systems of personal relationships which tend to perpetuate the existing schools of thought and retain the same people. Here, too, appearances may be deceptive. The system in some universities is highly competitive. The candidate appears before a board to which he has to present a dissertation on such ambitious lines as to show that he must have a practically unlimited knowledge of his subject. Often, however, an easy-going board will appoint someone who has already been selected beforehand for quite other reasons, which means that the system is no guarantee of the calibre of the teaching staff. The actual recruiting system is less dependent on the legal regulations that govern it theoretically than on the system of social relationships in the university. This system is strongly influenced by personal considerations which, in conjunction with small tight groups in university circles, tend to have undesirable effects. Few universities in the region have established a recruiting system in which the competence of the candidates is the main consideration, rather than their connexions with other professors, students, or some influential group in society. There are other, more important problems than these, however.

In most cases, the professorship is the nucleus of the universities. As has been noted, they are the real centres of power in the faculties, and the faculties in their turn are the centres of authority in a scattered university. In some universities, the professor has life tenure, while in others his appointment must be confirmed every five years. The life tenure system, though intended to guarantee academic freedom, has often been the object of sarcastic criticism. In the first place, there would seem to be other ways of guaranteeing academic freedom. Secondly, the indefinite tenure of a professorship by one person tends to perpetuate the same teaching and the same patterns of thought. From that point of view, the system of discussing the professors' reappointment every five years seems vastly superior, since presumably this will compel him to bring his knowledge up to date and secure the services of new collaborators. The main problem, however, is the function that is normally attributed to a professorship, and its isolation from the rest. The crucial problem is that professors who teach the same subject in different faculties, and sometimes in the same faculty or school, work quite separately from one another and from the teachers of related disciplines, and that there are no central or semi-central departments or agencies to keep them in touch with one another and oblige them to update their knowledge. The existence of the isolated professorship as part of a specific programme of studies, with no possibility of change or rotation, leads to endless repetition. From this standpoint, the main disadvantages of life appointments have little or nothing to do with the system, but stem from the position occupied by the professorship in the university. Thus, there is not much more renewal and change in universities where the professors are appointed every five years. The professor tends to be reappointed automatically and repeatedly, save in exceptional circumstances, which are seldom his failure to update his knowledge. The reason is more likely to be that he has lost favour with the dominant groups in the university. The five-year system or any other similar system within the same university structure does not hold out much more hope of intellectual renewal, and it has the added disadvantage of affording no security of tenure, and therefore of providing far fewer safeguards for freedom of thought.

If on the other hand a system is envisaged under which certain reasonable standards of competence in recruitment are combined with organizational conditions that guarantee a genuine integration of all the university units around certain basic disciplines, thereby promoting the necessary emulation, life tenure may have few disadvantages and, amidst the hazards of Latin American university life, may even offer reasonable safeguards for independent thought.

Reform must be expected to come basically from exchange in the university's attitude in favour of scientific research. This obvious principle, however, should be applied with extreme caution. The need for a thorough overhaul of the universities, the urgent necessity to promote the development of the sciences and the transfer of certain models applied in the developed countries sometimes leads to exaggerated views, such as that it is not worth engaging professors who are not also research workers, or that the very title of university professor implies that he is also a research worker. It must not be forgotten that even in the developed countries the idea of the professor-researcher, and the emphasis placed on it, are comparatively recent developments and the subject of controversy. If this idea is to have any meaning, there would have to be a very large body of highly competent personnel from which to recruit teachers, which is the case in almost none of the Latin American countries. In the developed countries the, idea is undoubtedly accepted for post-graduate courses, from a master's degree upwards, for example; but it is far less prevalent at other levels, where it seems to have had the effect of making the best professors retire and of lowering teaching standards. Such courses, however, scarcely exist in the Latin American universities. On the other hand, a university requires different types of qualifications, and everywhere there have been excellent professors who have been able to awaken their students to a vocation, including that of research, without themselves being researchers.

The university is not a factory in which it is possible to foresee every eventuality and decide beforehand that only such and such procedures or persons will be useful. If research gains in importance—which is desirable even though it does not mean that all professors will be research specialists or all researchers professors—excellent results may be expected in the way of bringing knowledge up to date and improving the content of the teaching. Without this and other reforms, it would be a delusion to think that any major changes can be achieved merely by altering the system of appointing and reappointing professors.

(b) *Full-time and part-time teaching*

Another big problem is part-time teaching. The professorship system, particularly in the traditional disciplines, enjoys great prestige outside the university. The professor of law or of medicine can charge higher fees for his professional services because he is a university professor, and this at the same time helps to perpetuate the system of part-time teaching.

Nearly all the authorities agree that part-time teaching is one of the great evils of the Latin American university. It has been called the "taxi-teacher" system, i.e., the professor hurries from his private practice to take a class at the university, after which he returns to his private activities. His underpaid services as a professor are a kind of luxury which gives him social prestige, but they are hardly compatible with the modern university's requirements.

However valid these criticisms may be, some consideration may usefully be given to the reasons for the persistence of this system, which obstruct reform or make it rather illusory. The part-time teaching tradition is of very long standing in the Latin American universities. In societies where specialization has not been carried very far, there are few who have reached the top of their professions and who can therefore be considered as the only persons really qualified to teach. In many cases, there are not enough trained persons for it to be possible to draw a clear dividing-line between the two roles.

Added to this are the low salaries paid by most universities, which hold out far less incentive than professional activities. This situation is associated with a traditional aristocratic view that certain services should be provided either free of charge or for a nominal fee.

The truth of these statements is proved by what happens when steps are taken to encourage full-time teaching. The desire to take up full-time teaching has less connexion with the university's needs than with the shortage of employment opportunities in certain fields of activity, and often less than with the mediocrity of the candidate, who would earn a higher salary as a full-time teacher than in any other post. Another indication of these problems is the fact that full-time teaching, as practised in some Latin American universities, often means merely that the professor spends more time in the university, and not that he is devoting all his attention to a specific discipline.

All these may be regarded as transitional problems. As the number of high-level personnel increases and they are better paid, and as the traditional conception of the university changes, the main obstacles to the establishment of full-time teaching and the resistance that is opposed to its operation when the system is introduced will gradually be overcome.

Not all schools and faculties have the same urgent need of a full-time teaching system; and the same is true of the different subjects. The order of priority is not the same for every university, but in all of them it is possible to plan a change-over from part-time to full-time teaching. By providing for the various requirements in the light of the actual resources available, such a plan will make it possible to determine how far the transition to full-time teaching is likely to accentuate the isolation which is so common among Latin American universities, and what steps might reasonably be taken to mitigate or prevent this isolation.

Full-time teaching is one of the most important and pressing questions facing the Latin American universities, but, like all the rest, it finds its place in an over-all plan outside of which it tends to lose all meaning. To decree that all or nearly all the staff should teach on a full-time basis, without adopting other measures, would simply result in the withdrawal of a large proportion of the university's qualified staff. This question is related to the change in the status of the professorship, the centralization of the university and the re-creation of the academic community. Perhaps the most serious criticism that can be levelled at part-time teaching is that the university community is virtually non-existent. Teachers who have little time to spare for the university can have little contact not only with the students but also with their colleagues. It is therefore impossible for them to discuss problems or work together, which is one of the bases for the introduction of fresh knowledge. Accordingly, the university's change-over from the part-time to the full-time system should be an instrument for breaking down the isolation that has existed hitherto.

The question of full-time teaching is also inseparable from the system of providing suitable guarantees of tenure for the teacher. Teachers cannot be expected to abandon all their other activities unless they are guaranteed a reasonable security of tenure, since after a few years they would find it difficult to return to their private activities. In this respect, security of tenure is much more important for the full-time staff than for those working on a part-time basis. Whatever the tenure system, however, the universities seldom make distinctions between the two categories. The problem is particularly noticeable in societies where there are few universities, where there is no real competition between the few there are, and where, consequently, if a teacher loses his post, he is as good as ousted from the country's university community.

(c) *The "brain drain"*

The above considerations bring into focus the question of the emigration of teachers as part of the more general problem of "brain drain". It is a fact that the Latin American universities are losing a great many of their best professors and researchers to the more developed countries or to international organizations. The systematic study of this problem from the standpoint of professionals in general is only in its infancy, and there are virtually no studies dealing specifically with university teachers. Any conclusions should therefore be treated with the utmost reserve.

The most elementary view is that emigrating teachers are attracted by the higher pay offered abroad. There is no doubt that this factor must be taken into account, and it is aggravated by the fact that under the existing system not only are salaries usually very low, but it is impossible to pay different salaries to teachers according to their qualifications. A top-level professor who holds the chair of any particular branch of learning earns no more than any other professor in the same position, even though he may be of much higher calibre and have gained national and international recognition for his work.

Nevertheless, some investigations[18] seem to show that pay is not the key factor. The majority emigrate because they believe that they will have more scope and facilities for their work. In other words, they realize that working conditions in their own countries are so inadequate that they will be able to carry out their work properly only if they emigrate to other countries. This is a very serious situation, if indeed it is widespread, since it would show that the universities fail to provide suitable working conditions for their highly qualified staff, in the face of an evident shortage of human resources.

4. UNIVERSITY GRADUATES

(a) *Graduates and university government*

It is common for graduates to take part in university government and for their representatives to be elected by their respective professional associations. One of the main reasons why graduates are interested in participating in university government is to maintain the professional monopoly which is safeguarded by the university degree.

The function of representing society in the university has sometimes been ascribed to them, but this is a very dubious claim since the graduates barely represent particular professions and certainly not the whole of society. Moreover, they have an immediate and direct interest in university activities which does not necessarily coincide with the public interest.

The intervention of graduates as it occurs in the Latin American universities is very difficult to justify. In principle, graduates are less competent than teachers, their interest in the university is more sporadic, and there are sound reasons for believing that they are responsible for the length of university studies and for the recruiting systems which tend to limit professional competence.

In this sense, their intervention seems to have more drawbacks than advantages, and tends to maintain undesirable pressure mechanisms.

(b) *University graduates and the labour market*

The direct or indirect intervention of graduates in university government is, generally speaking, merely one aspect of the efforts of professional associations to ensure satisfactory employment opportunities for their members. To limit the number of graduates is one procedure; the other is to secure the approval of legal provisions under which professional advisory services must be employed in situations which the associations themselves specify, or certain activities must be reserved for persons with particular professional qualifications. Thus in Latin America, on the most diverse grounds, a number of functions for which more limited training would suffice are reserved for top-level university-trained professionals. This has various consequences. First, the cost of certain services to the users is unnecessarily high; secondly, it constitutes a formidable obstacle to the development of intermediate-level university education. Perhaps it is not going too far to say even that when the anticipated surplus has not materialized in certain crowded professions, this is mainly because somewhat artificial distinctions have been made in specifying the activities which are reserved for university graduates.

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[18] Glaucio Ary Dillon Soares and Mireya S. de Soares, "La fuga de los intelectuales", in *Aportes*, No. 2 (October 1966), pp. 52-66 (Paris, Instituto latinoamericano de relaciones internacionales).

5. THE STUDENTS

(a) *Student employment*

Students in Latin American universities have won for themselves a major role which is out of all proportion to the part that students have hitherto played in the developed countries, although it is similar to that of their counterparts in other developing parts of the world. Nevertheless, few studies have been written on the students' own conception of their role as students in Latin America.

First of all, it would be useful to examine the extent to which students work in Latin America. Although this situation varies considerably, it is fairly widespread, at any rate in the State universities. In the River Plate universities about half the students hold regular jobs, and the proportion is much higher if only men students are considered. At first sight it would seem that the students work to earn their living and that this situation is related to social stratification in the university. Studies on the question show, however, that there is very little correlation between student employment and social stratification, and that in universities where a high proportion of the students work, all the social classes are equally involved. Social class is a relatively secondary variable in student employment compared with sex, since the proportion of men working is twice that of women.

These observations indicate that student employment is a very complex phenomenon. The fact that it is so widespread supports the hypothesis that it is a general behaviour pattern associated with the idea that after a certain age men should work. This implies that study is regarded as a part-time activity—which is not considered undesirable, as is shown by the high proportion of students who could devote all their time to it but do not do so. There is no question of financial impediments, but full-time study is simply considered excessive. This explains why, according to some studies, there is no appreciable difference in performance, in terms of the marks the students receive, between those who work and those who do not, since the latter do not devote all their time to study either, but concern themselves with other things, which are not paid employment.

Furthermore, if a student secures employment while he is still studying, this may be a way of improving his future chances of access to his profession. In any case, the whole system seems to imply that the university occupies a secondary position, which is due to the relatively high social stratification of the groups attending it and to a traditional conception of its function in social life.

Widespread employment has the effect of lengthening the period of study, although some research[19] has revealed that such prolongation has not occurred on the scale that might have been expected. Nevertheless, it is one of the reasons for late graduation or for dropping-out. The working student reaches an age where he contracts new responsibilities; as a result, he has to devote more time to work and prolong his studies until, in the end, he gives them up altogether. Employment probably does not affect the student's performance as much as might be expected, because in universities where this situation is common, the whole system, including the time-tables and requirements, is geared to the idea that the students have jobs. Hence the strange set-up in the Latin American universities, which seem to be the meeting-place of professors and students, both of whom devote only a few hours to the university, in accordance with a time-table that is carefully drawn up with due regard for the position of both.

(b) *Free education*

Student employment, the prolongation of studies, and scholarships are closely interrelated and are also linked to the question of free education. Most Latin American universities have a very poor system of scholarships, despite the general view that free tuition is essential in order to facilitate wider access to education for the low-income groups. The fight for free education—a hard struggle in many countries and still not completely successful in several of them—has obscured the fact that as the only instrument it is very ineffectual, whatever the importance attached to it. Although high enrolment fees undoubtedly seriously limit entrance opportunities, there are many other factors involved. The main cost of university studies to the family is the loss of earning power during the years in which the student is not working or is engaged in poorly paid part-time activities; the cost to society depends largely on the prolongation of the studies. In those terms, free education can be only partly effective. Hence the importance of the scholarship system. A broad system of scholarships under which the holder is obliged to devote all his time to university studies according to a prearranged schedule up to the time of graduation is one of the principal mechanisms of improving performance, and one which has been little used in the region. Two factors appear to militate against the success of such a system. First, it conflicts with the deep-rooted notion of study as a part-time activity. Secondly, it entails giving up a job or any attempt to obtain one. In this connexion, it might be considered that full-time studies would be practicable only in the context of a complete change in the present characteristics of the university.

Free education has always been considered—and only recently have dissenting voices been raised in official circles—as the main instrument of democratization; and democratization as a fundamental aim.

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[19] "Regularidad y origen social en los estudiantes universitarios", op. cit.

If democratization of the university is accepted as an essential goal, the question might be asked whether free university education is really the best means of attaining such a goal, since it benefits only those reaching the university, most of whom do not require it. It is often considered unfair that the children of well-off families should be given a free education. Furthermore, as increasing importance is attached to money values, a free service tends to be taken too much for granted and is regarded as a right rather than from the standpoint of the obligations it entails. Moreover, in some Latin American countries or universities the situation is somewhat paradoxical. University education is free, but the overwhelming majority of those receiving it have attended private, and therefore expensive, secondary schools; and it frequently happens that students who have had a free secondary education are unable to enter the university.

A brief analysis of these arguments and many others which might be raised shows that the question of free education involves questions of values and of the instruments to be used and also practical problems relating to the implementation of proposed educational policies. On the principle that social costs must be distributed according to income levels and that the poorer groups should be given the opportunity of free education, the most logical solution would be to charge enrolment fees in proportion to family incomes ranging from zero to considerable sums. This is only a theoretical system, however, since, wherever there are other than State universities, it would be difficult to find very high-income groups in the State universities, quite apart from the fact that the system would be virtually unworkable in countries like those of Latin America which have failed in their attempts to apply the same principle in their tax systems.

Another system might therefore be considered whereby the enrolment fee is standard and, in principle, to be paid by everyone, but poor students would be exempt. This would mean that those who can afford it would be able to study, whatever their motivations or intellectual qualifications, while the others would have to prove their inability to pay. In the kind of society where personal relationships are of such importance, this could lead to a somewhat inequitable distribution of the scholarships. Moreover, for the student with limited resources such a system would be no solution, since—apart from the fact that he would have to submit to a means test—the enrolment fee does not represent his main financial burden.

This system is sometimes used, among other reasons, to help to finance the university but it could be argued that the problem of financing should not be considered in terms of measures affecting the selection mechanism and admission prospects. Moreover, enrolment fees cover only a very small part of the university's expenses.

The best solution would be one that would increase opportunities and improve performance, and this line of reasoning might lead to advocating, as the French students did, that students should receive wages. Not only would society not charge for the service of education, but it would pay those receiving it, on the basis that the student is fulfilling a necessary function for the community and that the selection mechanism should choose the most able from all social classes. This could only be done by paying them enough to cover their basic needs while they are studying. Without going into the question of whether the system should be universal, i.e., whether even rich students should be paid, the idea is less absurd than it might appear at first sight, provided that it goes hand in hand with close supervision of the student's performance, so that graduation at the normal time prescribed in the programme of study becomes the key to the whole system.

The greatest difficulty is the cost of financing such a system, which would have to be worked out very carefully. In universities like some of those found in Latin America, the cost of the present system is extremely high when measured by the number of graduates. It would be interesting to know how much more the student wage system would cost, measured in the same terms. Perhaps the difference would not be very great. The most important objection is that, in view of the employment situation in Latin America, there would be a strong incentive to adopt the profession of student. A system of the type described would have to be accompanied by strict limitations and careful planning, but in that case it would seem as if those benefiting from the system were over-privileged in societies where educational opportunities are so unevenly distributed.

It appears, therefore, that less ambitious solutions for improving performance would be more reasonable. For example the right to free education could be universal, but the student could be deprived of that right if his performance fell below a certain level. The enrolment fee could be increased in proportion with the drop in performance, or students who fell below the required standard could be dismissed.

Another system, which does not exclude the one just described, is for education to be free and for some mechanism to be established whereby the student, once he has graduated, must repay a specified amount, regarded as a loan to the student, which could cover not only the cost of the enrolment fee but also of other allowances needed to keep him at the university. This system could be justified on the grounds of equity, since it is reasonable that those who earn a high income because of their professional qualifications should pay some of it back, but it does not have much meaning unless it is closely linked with the student's performance.

It would be possible to continue listing other systems and possible combinations, but since the problems of financing and performance, which are interrelated, vary so much from country to country, it would be very difficult to arrive at a universal solution. That being so, it is more important to bear in mind certain guiding principles. First of all, free education is merely an instrument of educational policy and is not sacrosanct, but, given present conditions in Latin America, it is difficult to find a better system. However, free education in itself has proved to be a very partial and inadequate instrument, both from the point of view of admission prospects and as a means of combating selection for other than academic reasons. If it is abolished, other instruments will have to be devised that would have the same advantages and overcome some of its deficiencies, and this would undoubtedly be difficult; but if is is maintained, it is essential that it should be supplemented by other instruments.

These instruments should be designed to reduce as far as possible selection for other than academic reasons, and to bring about an improvement in the system's performance, measured in terms of the number of graduates it produces. This is the crucial university problem in Latin America. There must be a more rational use of available resources, which are scarce and cannot be used—at least until there has been a considerable change in the financial human circumstances—in educating or semi-educating at the highest level, which is necessarily selective, persons without the necessary ability or motivation. The system which is adopted will depend on the circumstances in each society and, given the complexity of the problem, it will probably be advisable to try out certain procedures and check the results against all the most important criteria.

Generous systems of scholarships or loans would seem to be an effective way of overcoming the deficiencies of universal free education, provided that they are tied to the student's performance. The ideal would be to ensure that the student could devote himself exclusively to his studies, and at the same time to demand some sort of guarantee that he would strictly fulfil his obligations to society. As to go to university and remain there is a privilege in Latin America, it supposes very serious responsibilities on the part of the student in his capacity as student, but it would be dangerous if any abuse of that privilege led to the application of measures which, far from preventing such abuse, would merely restrict the privilege to smaller groups.

The ideal would seem to be a full-time student body, subject to rigorous requirements and drawn from all sectors of society because the university would provide its members with all they needed to continue studying. There has already been a process of selection at the lower levels of education, and as there are grounds for believing that the only way of choosing the most able is to include the lower strata of society, any system which excludes them would deprive society of a sizable proportion of its most gifted members. There is, in addition, a need to continue widening the bases of selection for university places, and this focuses attention on a problem which is often ignored; that of scholarships for secondary education which, if properly applied, would make the selection, in terms of making full use of the existing potential, much less wasteful than that which is the result of stratification.

Finally, and this also makes it difficult to suggest universal solutions, it should be remembered that the significance of all these systems—free education, scholarships, etc.—varies according to the level reached by the expansion of university enrolment.

6. STUDENTS AND STUDENT ORGANIZATIONS

(a) *Student participation*

Student organizations and the activities of students as a group, although not confined to Latin America, are undoubtedly one of the most striking characteristics of the region.

These organizations engage in both political and trade union activities. Their union activities include everything that relates to securing benefits and measures of protection for students, such as free education, cheap or free textbooks, student refectories, etc. The political activities are more general, in that they are related to ideas or movements which tend to influence university or faculty policy, or are connected with the general management of society and even with international politics. These distinctions are only relative, as distinctions of this kind always are, and in specific cases it would be very difficult to distinguish between the strictly union or co-operative activities and political activities. Although the political aspect is the most typical of Latin American students and has been the most controversial both inside and outside the student movements, there are also groups which are mainly concerned with union activities.

Very different conclusions can be drawn regarding the degree of student participation in these organizations, depending on the criterion adopted to define this participation. Participation could be defined as the payment of membership fees, i.e., the mere fact of being a member of such an organization; as attendance at assemblies or meetings; or in terms of the part played in running the movements. The last two could be considered active participation and the first passive, which gives us a rough but useful criterion of distinction. On this basis, all the studies show that active participation is limited to a very small percentage of students, in contrast with what it might appear at first sight. The main variations seem to be between the proportion of students who do not participate fully and that represented by students who do no more than pay their membership fees. In some countries, even the proportion of students who pay their membership fees is low; in others, almost all the students are members, although very few are more actively involved. This difference generally stems from the extent of the union services provided. Some student centres or organizations provide lecture or class notes at reduced prices for their members and other similar kinds of benefits, with the result that nearly all the students belong in order to enjoy these benefits but without having any other form of participation in mind.

The distinction between the two types of organizations is of some importance, because although it does not make any great difference to the percentage of students actively involved, it does make a considerable difference to their resources. Active participants in organizations to which all or almost all the student body belongs have considerably greater resources at their disposal.

In view of the widespread publicity given to student movements and the attention they attract in the community, the low degree of participation revealed by all the studies is somewhat surprising. Another result of the studies which has a bearing on this subject is that participation in all its forms seems to vary considerably between the different faculties and schools within the same university. In addition, the most recent studies all point to the need to take into account the nature of the studies being pursued as a very important variable, an aspect which has not so far been sufficiently considered. In general, it seems—on the basis of partial research—that students of disciplines such as history or sociology tend to have the highest degree of participation, while engineering students have the lowest.[20] The remaining disciplines come somewhere in between. These results are important because they reveal that the differences in participation are due, at least in part, to the socialization process to which the student is subjected once he enters university. The patterns of behaviour required by the active participation of the student in student organizations are much more extreme in some faculties or schools than in others; the process of identification of the student with his faculty or school or with his fellow-students must therefore be profoundly influenced by this circumstance.

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[20] Myron Glazer, "El proceso de socialización profesional en cuatro carreras chilenas", in *Revista Latinoamericana de Sociología*, 66/3 (November 1966), pp. 333-367.

(b) *The conception of the student's role*

But what is the nature of these requirements? In other words, what is the conception of the student's role which the present organizations are attempting to put over as the only valid one? Depending on the type of organization in question, there are many different possible combinations of ideology and union activities, and these organizations might range from those which are purely concerned with union activities and have very tenuous political ideals—the defence of liberty and democracy—to those which are essentially political, in which what appears to be a secondary concern is in fact their main motivation. It is very common for students to be called upon to play a political role and to concern themselves not only with the administrative or leadership problems of their university, faculty or school, but also with all the political, social and economic problems of the country and, through those problems, with the international situation.

It is primarily in his capacity as a university student rather than in his capacity as a citizen that the student is called upon to play a political and social role. The most common justification for this is that the university student, because of his privileged situation in society, must give back to society what he is receiving from it. From this undeniable premise is drawn the more doubtful conclusion that the only worth-while way of doing this is to assume this political and social role. The more the importance of this aspect is stressed, the more obvious it is that the image of the detached student concerned only with his studies is being weakened.

The student movement attempts to put over its image of the student by using a variety of very different means, including making it a part of the socialization of all members of the school or faculty. In point of fact, those who actively participate come fairly indiscriminately from all the social groups found in the unit in question,[21] and there does not seem to be any marked difference in the part played by the various social strata. It must be remembered, however, that the differences between the strata are minimal and that the students from the lowest strata have already, by the time they reach the university, undergone a long process of socialization through which they have assimilated middle-class values and behaviour patterns.

(c) *The autonomy of the student movement*

As has been pointed out, very few students participate actively and their proportion seems to be declining, although not their social visibility, which may increase as the student takes on a more political image. This is one of the reasons for the weakness of the student movement.

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[21] Glaucio Ary Dillon Soares and Loreto Hoecker, "El mundo de la ideología: la función de las ideas y la legitimidad de la política estudiantil", in *Aportes*, No. 5 (July 1967), Paris; Instituto Latinoamericano de relaciones internacionales, pp. 102-122.

Many writers have stressed the potential power of the student movement in certain societies and it is indeed possible to point to cases in which large-scale student demonstrations have led to the fall of Governments or have had other important repercussions. But these general observations can be counterbalanced by others which are equally striking: student movements which in theory were extremely belligerent have remained silent in the face of the downfall of régimes or other events which represented a great potential danger to them.

These variations in the student movement, which is sometimes at the centre of the political scene and sometimes completely on the fringe, even in the same society and within relatively short periods of time, can only be explained by the fact that the autonomy of the student movement is always very much a relative thing. Not that it lacks strength of its own or is merely an easily manipulated tool; nevertheless, everything points to the fact that, when the student movement acquires considerable importance and takes part in activities that have a decisive effect on national politics, this is because it is accompanied by many other forces or movements which, when it suits them, allow the student movement to occupy the centre of the stage. This is amply demonstrated by the sudden complete or almost complete loss of importance of student movements which up to then seemed to have participated at a very high level, when as a result of various circumstances they are totally isolated from society.

These considerations help to throw some light on the peculiar situation of the student movement. Since active participation in the movement is relatively low, its strength depends to a large extent on the support of other social groups and particularly of other political movements and pressure groups.

To these facts must be added the fact that the students' social origin, while allowing—and for a number of reasons probably favouring—radical ideas and talk, appears to limit their ability to put their ideas into practice. In other words, the greater the need to pass from words to deeds of an extreme nature, the more difficult it is to secure active participation, except where such extreme—in the sense of exceptional—political behaviour is supported by many groups already sufficiently powerful to destroy the existing structure or to defy it with a good chance of success. Thus, in the study of the student movement, a systematic analysis of the relationship between the professed ideology and actual behaviour in different political and social situations and within different political and social groupings would be extremely valuable. The effort to rise above the demands of the social classes from which the students come is probably one of the most interesting things about the student movement, and to judge by their statements the students appear to go so far as to oppose the interests of the groups to which they belong. The call for equality, for the elimination of all the great class distinctions and of the exploitation of man by man, which is part of this ideology, goes hand in hand with attitudes which clearly express the wishes of groups which consider themselves free of the obligations and limitations of the ordinary citizen. Thus, in some countries, students remain barricaded inside the university and surrounded by police, who also take no effective action, rather than obey a legal order to come out and submit to police identification procedure. This is a clear demonstration of their conviction that they are a group deserving special treatment and whose social position should be respected.

(d) *The relationship between active and inactive participants and the leadership*

The question arises of how the minority of active leaders succeed, at least for certain things, in securing a relatively high level of participation. Students not only make statements, but also go on strike in favour of or against this or that national or international event, and turn out in large numbers to demonstrate. The link between extremely radical leaders and an essentially apathetic and indifferent student body has not been investigated, but there are certain lines of thought which seem to be of particular interest. A document such as the Córdoba manifesto—to cite what can be considered the Magna Carta of the Latin American student movement—contains requests for student participation in the government of the university, affirmation of the principle of autonomy, free education, extension courses for the working classes, the right to choose whether or not to attend lectures, and various statements of a general political nature. This list, although incomplete, is a good illustration of the way in which the strictly union and the political elements are combined. There is a mixture of one and the other type of request, just as there is a mixture of completely unrealistic requests—such as that the university should be open to everyone with the necessary qualifications, regardless of their economic and social situation—and such feasible and humdrum requests as the right to choose whether or not to attend lectures. It may be that the possibility of the student movement acting in unison, despite the apathy of a large part of the student body—a proportion which increases in direct relation to the movement's concern with purely political matters—depends on the diversity of the aims pursued and on a judicious mixture of the two elements. The most important variables would seem to be the nature of the point at issue, the kind of direct participation required and the behaviour of the leaders with regard to other issues.

The more emphasis there is on mere statements and the less there is on actual participation, the easier it will be for the leaders to count, if not on the support, at least on the acquiescence of the bulk of the student body. On the other hand, the greater the benefits the leaders can appear to have won with regard to union questions, the greater their freedom of action in the political sphere. It is as if the apathetic and indifferent mass of the students, for whom political problems have very little significance, were content to allow their leaders to issue innumerable statements on the most varied aspects of national and international politics, always provided that the leaders were successful in maintaining or strengthening certain rights, such as voluntary attendance, which are seen as basic rights won by the union. The latitude afforded the leaders is extremely wide so far as statements are concerned, but is much reduced when direct participation is requested.

With such a complex mechanism, there is always a possibility that the leaders will misjudge the students' response. The students might react against being drawn into politics, and on occasions when direct action is needed, any move will be doomed to failure unless the student movement is at the same time backed by other social forces.

Experience has shown that in many cases the student movement can be regarded as a training school for future political leaders. In those Latin American countries where the student movement has been very important, many student leaders have later become members of the Government and in their capacity as minister or president have taken repressive measures against the demonstrations of the student movement of the day. It would be a complete mistake to pose the problem in terms of personal ethics. What happens is that for certain social groups, as yet ill defined and little studied, which are not the same from one period to another, the student movement is one of the few means of expression. It is through the student movement that certain groups forge their way to power and certain individuals, as they become more visible on the social scene, prepare themselves for their future functions.

This phenomenon seems to suggest that other institutional mechanisms for training politicians are either extremely weak or non-existent. The preoccupation with politics of this small group of student leaders is undoubtedly a consequence of certain characteristics of the social structure in Latin America. In societies which are extremely volatile from the economc and social standpoint and in which there are many conflicting currents, it is quite understandable that certain groups find in the university, and particularly in the student movement, one of the means although not of course the only one, of acceding to power. This explains why, in periods of stable government—either by force or consensus—the student movement tends to lose its significance and regain it only when the situation turns critical.

The student movement has had dynamic functions outside the university in many Latin American countries. The fact that active student participation has not corresponded to any great extent to a political ideology and that only minority groups among the students have been affected by any such ideology does not mean that the student movement has not fulfilled functions which favoured change, by sometimes providing new groups with an ideology or a means of access. Not that this has always been the case, since the ideology supported by the middle classes has frequently been merely a rationalization of a series of privileges already obtained, rather than an effective impetus to social change. Hence, although students have been stating since long before the Córdoba reform that there is a need to establish closer contacts with the workers and to promote a more equitable distribution of income, it is doubtful whether this aspiration has ever been put into practice.

A minority which recognizes the privileges it enjoys and professes to be against them does not thereby cease to be privileged, nor is it really fighting to abolish them. It is more that the call to other groups and the demand for certain changes are a justification of the role they play or propose to play in society. This is what gives rise to the ambiguity of the student movement, the varying degrees of significance it may acquire, the blindness of which it is capable and its frequent isolation from society; but also to the fact that it provides a way up for new groups which in one way or another will bring about certain changes.

All these phenomena are connected with the fact that a large proportion of students feel a concern for society which is not channelled in any way by the teaching institutions. Some authors have pointed out that the more students are involved in the university as such and come into direct contact with their teachers and are able to discuss things with them freely, the less they are drawn into politics. This correlation is not an obvious one, but it is probable that the activism of Latin American students is partly due to the fact that the universities are not capable of stimulating even their academic interests, or of directing or channelling these interests in such a way that they become the students' major or exclusive concern.

The students' attitude towards the community cannot, however, be totally divorced from the university. In addition, other means could be used to direct it to rational ends, as part of the university's extension work. One of these means, which has acquired a certain significance in some countries, particularly Chile and Peru, is the participation of the students in community development programmes. Without going into the problems of the role the students can play and its adjustment to the needs of the community,[22] this solution is hardly compatible with very high levels of political commitment, which goes hand in hand with the idea of a revolutionary transformation of society. Hence, certain student groups would be unable to accept solutions which, rightly or wrongly, appear to them as maintenance of the *status quo*. But such a solution would be welcomed by many others, particularly if at the same time the academic interests awakened by the university were strengthened. It is somewhat premature, however, to forecast the future development of student action of this kind in the service of the community.

(e) *Students and the university*

More important than political action are the functions of the student movement, now and in the past, within the university.

For long periods the political element in the student movement has been in constant conflict with the function of student in the strict sense of the term. Although dedication to political and union activities reduces the study-time only of the minority, strikes and demonstrations of various kinds have greatly affected all students for long periods. In this sense, the student movement has often prevented the best use being made of available resources in order to create urgently needed cadres of highly qualified personnel.

The union activities of the student movement have had many effects which have already been commented on in the discussion of co-government. In addition, in the name of an egalitarian ideology in favour of opening the doors of the university to the lower social strata and keeping them there, the student movement has sought and often obtained a series of measures designed to reduce the work-load of the students and allow considerable latitude in the fulfilment of requirements. In schools or faculties where the student movement has gained a decisive influence, programmes of studies have been established whose permissiveness borders on anarchy.

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[22] José Sabogal Wiesse, "El proyecto piloto de la margen derecha del valle del Mantaro", in *Desarrollo y Democracia*, No. 4 (Lima, 1964), Fundación para el desarrollo internacional, pp. 21-33.

It is obvious that measures taken within the university to reduce the work-load and supervision of students in no way help to increase the number of entrants to the university. They only affect those who are already there, and the overwhelming majority of these do not belong to the lower strata of society. Moreover, a great deal of the action taken by the student movement has the effect of prolonging university studies, which adversely affects the students from the lower strata. Although it is insisted that the intention is to favour the lower strata, it is clear that no one has taken the trouble to find out whether the measures taken do in fact benefit them, and everything points to the fact that certain groups have pursued policies in regard to studies which are to their own advantage and have nationalized them, quite sincerely, as part of a campaign to make the university more democratic. In these aspects the student movement has not favoured the modernization of the university and has not been consistent with the idea, which the movement itself professes, that to go to university is a privilege, since this concept would justify more severity in the organization of the studies rather than a reduction of the work-load.

All these measures have not helped to raise the number of graduates, but merely to strengthen the concept of part-time study, with all its disadvantages. They have in fact, because of the general decline in discipline which they provoked, helped to prolong university studies and thus to reduce the number of graduates produced by the university in relation to the number of students enrolled. This explains why there have been so few conflicts between student and professional organizations in Latin America, since the intervention of students in university government has not had any unfavourable effects for the professional associations.

In the history of Latin America and the student movement, the cry of "Back to the classroom!" has often been heard, meaning that students should devote themselves exclusively to their studies. On many occasions, Governments that have come to power by fomenting student political agitation have been the first, once they were firmly established, to demand this return to the classroom. The reasoning is often somewhat specious. Students are citizens or potential citizens and should assume their civic responsibilities, which include obedience to the laws of the land. But if as citizens they cannot and should not claim any privilege for also being students, equally they cannot renounce any of their obligations, which are perhaps even more imperative because they have attained a level of learning rare in their society. It is thus quite understandable that they should try to use the student organizations for political ends, and the more monolithic the régime the more essential this becomes. On the other hand, it is also true that society has the right to demand that students should concentrate primarily on their own work, which is to prepare them for their future role. In the present situation in Latin America this would seem to be an inescapable necessity. The transformation of Latin America, which the student movements believe themselves to be pursuing with such zeal, depends to a large extent on having highly trained personnel, which in no way implies that they should be politically neutral or unwilling to fulfil their duties as citizens or to discuss the options put forward in the political field.

H. Some conclusions

1. THE QUESTION OF REFORM

To construct a utopian conception of the university is the best way of impeding its real progress. In this field, as in many others, to set one's sights too high is self-defeating and what is more important, serves to justify the maintenance of the *status quo*. But it is also true that any university, like any social institution, is governed by an idea, in the sense given to the word by Hauriou. This idea is never fully realized, but if it is not there as a guide all that is left is routine or improvisation. The most serious problem facing the Latin American universities has been the inability of their leaders, and in general of all intellectuals, to create an idea of the university which is in accordance with the needs of the time. It could perhaps be demonstrated that, historically speaking and until very recently, the last important effort to formulate a coherent idea of the university was made by the Latin American positivists, but too much water has flowed under the bridge since then for their conception to be applicable to the present needs of the Latin American societies. Our present objective is much more modest; it consists in pointing to some of the important requirements imposed on the university by the particular situation of the region.

Some of the reasons why the role of the university is so crucial in Latin America have already been indicated in chapter I. Throughout almost the whole world, universities have represented the nation's thought or a fundamental aspect of it, but there have been other institutions which have played quite an important part in this function. In Latin America, if the universities do not do it, it is very difficult to see who will. Although it is common in Latin America for the universities to imagine that they are fulfilling this function satisfactorily and that the stagnation or loss of dynamism affecting the region is not their fault but that of other groups, it would be difficult for an impartial observer to share that conviction. It could, on the contrary, be shown that stagnation and the inability to create and sustain new thought have been one of the main characteristics of the universities.

2. TEACHING

Teaching has traditionally been the university's most important function and until very recently was strictly professional in character. One of the most curious aspects of the Latin American universities is that the reforms which have been introduced in this century have been primarily directed towards broadening the basis of selection and making the universities more democratic, but have had little or no influence on strictly academic questions. When the point is reached where it is essential to increase the number of professions for which training is provided, no change is made in the traditional structure of professional training; all that is done is to add new courses to existing ones.

What is needed is a completely new approach. Since the development of science and technology is a key factor in society, a fundamental change—apart from those which will be considered later—is called for in education itself.

On the one hand, the general importance of science and technology in all societies makes it essential to teach certain basic sciences to almost all students, to promote new non-professional courses and to set even the traditional courses in a completely different framework. On the other, particular circumstances in Latin America make it essential to reorient teaching towards the real problems of the country, the region and the new international *milieu* which is a legacy of the Second World War. To meet this need, the social science courses have been expanded in order to produce the economists and sociologists required in each country and in the region. To arrive at a greater knowledge and understanding of the actual situation in the country and in the region is an essential function of the universities, but until very recently teaching was completely out of touch with the conditions and characteristics of society. Foreign textbooks were reproduced without going into the question of whether they were applicable to the problems of the country, and broad ideological trends were followed without considering to what extent they were valid in a different environment. The teaching has been characterized by a lack of realism; economists have discussed the advantages of protectionism and free trade as if they were in Europe, and this has happened with the theory of marginal utility, and so on. Depending on the country, Latin America is twenty, thirty or forty years behind in economics, as in other disciplines, and first the European and then the North American theoretical discussions have exhausted the capacity of absorption of the great majority of professors. Very rarely has anyone asked the simple question whether many ideas, supposedly of universal value, were current only in the situation which gave rise to them and were then universalized by a common and quite understandable process from the point of view of the countries at the centre. Teaching has always tended to follow in the wake of changing models rather than to start from a diagnosis of the real situation. In the last analysis, however, these defects in teaching have been the product of the extraordinary poverty of research.

3. RESEARCH

The Latin American universities were constructed on a model which excluded research, since it created other centres for that purpose in society; but since the Latin American countries did not establish such centres, the lack of research in the universities meant that no research whatsoever was being carried out. This has been, and still is today, the main defect of the Latin American university.

Any attempt to introduce change involves a previous knowledge of the fundamental problems of the region and of each country, and of their more or less spontaneous tendencies towards change. This implies a systematic effort to analyse the actual situation, which should be the basic mission of the university. To do this without the help of the work already done outside the region on similar problems would be just as foolish as merely reproducing formulas which may or may not be applicable to the actual situation and probably are so only to a certain extent. Science is universal and universality is one of its fundamental requirements; but the social sciences have not yet reached such a level of abstraction that theories can be universally valid. There are merely abstract schemas, constructed on the basis of specific realities, which in themselves have no more claim to universality than those based on the Latin American reality. To study the Latin American reality and, when necessary, construct new conceptual schemata is not cutting oneself off from the universality of science but contributing to it.

It is essential, therefore, first to carry out a diagnosis of the major problems and to define the areas in which research must be concentrated. In theory, no one is in a better position to do this than the university, and, therefore, no one has so great an obligation to take on the task. In an undertaking of this kind, outworn ideological schemata and discussions which no longer have any bearing on the realities of our time must be abandoned in order to concentrate on real problems and undertake a systematic and objective analysis of the situation, as befits any scientific undertaking. The greatest freedom of discussion must go hand in hand with the most rigorous adherence to facts. This does not exclude discussion of the major political options but rather favours their presentation in accordance with present realities.

In most Latin American countries the analyses of the economic and social situation which have been made in the last few years were carried out by planning agencies, and this points to the fact that the universities are not doing enough research on the major national problems. This shortcoming can hardly be attributed to lack of funds, although in some cases this may be an important problem. Not all the gaps that needed to be filled required huge resources, but merely a few research workers and a favourable atmosphere. Rather than means, what seems to have been lacking is the will to encourage systematic research and the intellectual climate needed to carry it out. It is not without significance that in several countries the research undertaken in the planning offices was carried out by university teachers who had never done such work in the university.

Not only has there been a shortage of resources, there has also been very little willingness to devote any significant proportion of such resources to research.

Most Latin American universities have been designed as teaching institutions without taking even the slightest account of the very different requirements, even on the organizational plane, of research. The budgetary, financial and administrative structures all militate against it. In most Latin American universities it is common for research units to spend an enormous amount of time on administrative formalities and on obtaining the necessary approval to proceed. When to this is added the endless discussion of ideological problems, it is quite understandable that the atmosphere is not the most propitious for serious and systematic work.

In the last ten years, however, considerable progress has been made in the social sciences in Latin America, and a fairly clear understanding of the need to study social problems has emerged. This process, which has depended on the universities only in part has also produced irreversible effects on the universities themselves, by multiplying the number of institutes and expanding the work of those that already exist.

4. UNIVERSITY PLANNING

University reform can bear full fruit only when it is pursued through a national planning which clearly defines the university's functions and what it is expected to produce, so that the internal planning of the university is not undertaken in a vacuum.

It is difficult for research and modern, development-oriented teaching to be carried on in the universities while the great majority of teachers and research workers are part-time; but for them to be full-time would be meaningless unless there was also a fundamental change in the university which would create the necessary structure and effectively promote research activities. Otherwise more might be lost than gained, since, with all its drawbacks, the present part-time system does allow teachers to spend some of their time in institutions of various kinds which provide them with a more favourable atmosphere for research.

All experts on university problems deplore the highly academic character of the Latin American universities and the little attention given to vocational training, but, in terms of actual employment opportunities, it could be argued that education is highly vocational, since in every country there are many university courses which prepare students for particular jobs, however much these jobs may not be the most desirable from the abstract standpoint of development needs.[23]

Only societies that know themselves are capable of changing, and circumstances in the world today are such that there is less and less scope for improvisation or rather, that the consequences of improvisation are increasingly harmful. Everything seems to point to the fact that the only effective instrument of change for the Latin American countries is planning. It is those who believe that the techniques in use are not the most appropriate or that present policies are mistaken who, when they are engaged in university research activities, have the most obvious duty to propose other means and approaches. All that planning means is the use of a series of rational instruments to bring about a desired change. Neither its ends nor its means are outside the scope of discussion, and they can be continually improved. The planning of society is a task which goes beyond the functions of the university but one which requires its constant advice. If the university wishes to be the vehicle for thinking and innovation in the country, as it should be, it must help to direct its resources towards the most desirable goals. This entails the training of the necessary personnel—economists, sociologists, etc.—and systematic research. It also entails the participation of the university in the discussion of major national problems at all levels, from the establishment of targets to the selection of instruments. Although it is not incumbent upon the university to take fundamental decisions, it cannot shirk its responsibility for helping to clarify the issues.

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[23] Philip J. Foster, "The vocational school fallacy in development planning", in *Education and Economic Development*, C. Arnold Anderson and May Jean Bowman, eds. (Chicago, Adine Publishing Company, 1965), pp. 142-166.

The university is the institution *par excellence* for imbuing these processes of discussion and formulation with calm, the scientific spirit and the concern to prepare a broad long-term plan for the future of the nation. What is needed is not that the university should take over the political function but that it should strengthen its own specific function, which at the present time is an essential prerequisite for the fulfilment of the former. Where the university attempts to take over a political function, no one can prevent it from being just one among many factions, and not the intellectual voice of the nation.

The isolation of the university has militated against the fulfilment of all these functions. In many countries the universities have become autonomous institutional spheres in the sociological sense of the term. It is not merely a question of failure to collaborate in the functions of government, but of something more general and more serious: the creation of a kind of system of incommunication with the whole of society. In these circumstances, the university can hardly be the intellectual voice of the nation and the mainspring of innovation when it is incapable of understanding the real concerns and aspirations of the community and even more so of expressing them.

Ideological preoccupations are perfectly legitimate but must be added to rather than replace—as they have in many universities in Latin America—the systematic and scientific study of the country's problems. If these preoccupations can be justified by the desire to give the countries of Latin America real independence, it must be remembered that one of the pre-requisites is the development of science and the optimum use of resources.

It is also true, however, that it is partly the deficiencies of the universities in meeting the most urgent teaching and research needs that have led to the creation with domestic or foreign funds, of centres which are independent of the universities. This inevitable process, whether desirable or not, will continue in the future, unless there is a change in the university situation. It may be a factor which will force the universities to change but the inevitable and generally undesirable effect will be that it does not correspond to any plan and will reduce the role of the university in society. So far, it has not been possible to find institutions in any of the Latin American countries that could fulfil certain functions better than the universities. There are a number of reasons which appear to make the role of the university in Latin America even more vital and important, and others which make the maintenance of their autonomy and their very existence much more hazardous. No university can fulfil its function without effective and fully recognized autonomy; but nor can it do so without being properly attuned to society's needs.

The systematic changes which appear to be imperative in Latin American university structure are, as we have tried to show, very closely interrelated. Partial reforms no longer seem to have any favourable effect, but rather the negative one of delaying the fundamental transformation that is required. Moreover the needs being met by the universities at the present time are undoubtedly much fewer than they will be in the near future, since it is inevitable that the demands of the economic and social system on the universities will continue to grow even more rapidly than in the last few years.

All these circumstances make planned reform a must for the universities. University planning is one of the most urgent tasks facing the university itself and is indispensable if there is to be the least likelihood of meeting present and future needs with any degree of success. University planning must in its turn be an integral part of national planning if it is to have any meaning. The two must be carried out side by side and be closely co-ordinated, since national planning—which involves forecasting and planning future manpower needs—cannot be effective if the university does not produce the human resources required.

These needs are so obvious that a planning office—or some similar kind of office—has been established in almost all the Latin American universities. The part played by university men in national planning bodies must have helped to create or expand such offices, but their operation still runs up against innumerable difficulties in the great state universities, particularly where there are many universities in the same country.

Given the present situation of the universities, rational planning would imply the most radical changes. Although there seems to be general agreement on this point, it is often forgotten that this also implies far-reaching changes in power relationships. In other words, planning must change the present power structure in the universities, and this means that the power exercised by certain groups must be reduced. It is therefore hoped that certain groups will take planning decisions that will lead to a considerable reduction in their participation in the power structure. This contradiction is not peculiar to university planning but it may be concealed by the universities' strange conviction that they are in the vanguard of all dynamic processes. The longer the universities delay in resolving it, the greater will be the temptation, and justification, for power centres outside the universities to impose the changes. Of course, these outside centres may use the situation as a pretext, and their real intention may be to eliminate independent power centres rather than to introduce the desired changes.

The existence of this contradiction and the impossibility, so far, of resolving it explains the ambiguity of many attempts at "modernization" in the universities. In creating new structures, the essence of the traditional structures is nearly always preserved. Consequently, there is a proliferation of bodies and authorities, with a corresponding increase in costs.

This explains why the planning offices have been ineffective and why their very existence has given rise to illusory hopes of reform. Even with the best intentions and at the highest technical level, the gap between the ideal and the possible will always remain; consequently, the documents produced deal only with these points on which it is already known that measures can be taken and they shirk those which involve controversial decisions of a fundamental nature. The former tend to be precisely those which, although they have a false aura of "modernization", do not significantly alter the present university structure and thus can win unanimous support.

Although there have always been periods in which the role of the university has been much more vital than in others, it would be difficult to point to one in which it was as crucial as it is today in Latin America, since the university is one of the most important instruments that will determine in the near future whether or not Latin Americans will become true citizens of the world.

5. RESEARCH FOR DEVELOPMENT

The universities constitute an immense fund of resources for Latin America, which only have to be mobilized for development tasks. One of the most striking features of higher education in Latin America is the little interest that has been shown in research for development purposes, although it has increased in the last few years.

The poverty of scientific and technological research has very special effects in Latin America, as in other developing regions. It leads in practice to backwardness or to the blind application of techniques from more advanced countries. In either case, the effect is to increase the degree of technological dependence. In the industrialized countries there was a close relationship between invention, cultural background and economic needs. The application of science and technology, as they both developed, provided a great impetus for industrialization, but there is no need for the developing countries to pass through all the stages from the steam engine to nuclear power. On the other hand, consideration must be given to the question of whether the mere adoption of the most advanced techniques is either necessary or desirable.

The technological gap itself and the particular conditions in Latin America, vis-à-vis the development of other regions, open up a number of possibilities:[24] research on problems that have not been studied in the more developed countries and which may be very important for Latin America, and the adaptation of the discoveries and inventions of the developed countries to conditions in Latin America.

The additional burden that this would represent for teaching and research could hardly be borne by the universities alone. The proliferation of other institutions is not only due to the shortcomings of the universities but also to this undeniable fact. It is essential, therefore, that there should be co-ordination between the universities themselves, and between the universities and other institutions, within the framework of a general policy for scientific and technological research formulated for each nation.

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[24] *Final Report of the Conference on the Application of Science and Technology to Development in Latin America* (UNESCO/NS/202), pp. 189-190.

Chapter VI

PLANNING AND EDUCATION

The application of planning to the educational systems of Latin America has accompanied or followed the introduction of over-all development planning, and has been in large part a consequence of governmental endorsement of the latter. While educational planning has conceptions and methods of its own, it has borrowed extensively from development planning. Planning of the educational sector in isolation is conceivable, but it is generally taken for granted that educational planning cannot become fully effective until it is able to rely on a functioning system of development planning for guidelines on the resources that can be allocated to education and the educational requirements of the society and economy, and until it is able to present the claims of the educational sector in a manner permitting an objective assessment of these claims against other demands on public resources.

At the same time, education is one of a number of sectors of publc social action whose justifications are not limited to their putative contributions to economic growth. Decisions concerning allocations to these sectors have to take into account not only economic considerations but also national objectives for income redistribution and the raising of levels of consumption, and also popular demands that cannot be denied or postponed beyond a certain point under democratic political systems. The many common elements in the objectives and methods of these sectors have stimulated a series of attempts to integrate them under broad conceptions of "social development" or "raising of the level of living", and to devise systems of "social planning" as a counterpart to "economic planning".

For present purposes, it thus seems necessary to present in some detail the present state of development planning in Latin America and the obstacles to its effective application, and then to consider the problems of "social development policy" and "social planning", so as to provide a broad frame of reference for consideration of the present state of educational planning and of the related but distinct body of conceptions and methods known as "human resources planning".

A description of the problems and obstacles now encountered by development planning is sufficient to show that most of these problems and obstacles are also present in the more restricted sphere of educational planning. The difficulties of formulating and applying an integrated social policy also reappear in the attempts to unify educational policy. The problems that are peculiar to the educational sector have been discussed in previous chapters and here can be disposed of briefly in their special applications to planning.

A. Development planning in Latin America [1]

1. PAST HISTORY AND PRESENT STATUS OF PLANNING ACTIVITIES IN LATIN AMERICA

(a) *Past history*

The need for a development planning policy has only recently been recognized in Latin America as the result of a combination of internal and external factors.

During the nineteen-forties, the need to enlarge the economic infrastructure, particularly the transport network and power supply, and adapt it to new development conditions, and also to encourage relatively large-scale projects in key industries led to the preparation and implementation of some partial programmes dependent mainly on public investment.

Subsequently, particularly towards the end of the fifties, it became increasingly apparent that the Latin American economies lacked the necessary dynamism to maintain moderately satisfactory rates of growth to remedy critical imbalances in their foreign trade and external financing, to contain inflationary pressures, to provide sufficient productive employment for a rapidly increasing labour force, and to improve living conditions and at the same time fulfil rising expectations created by a knowledge of the tremendous possibilities brought about by technological advances. Economic policy thus came to hinge on development in its most comprehensive sense as an economic and social concept encompassing both internal and external limitations. Furthermore ECLA, whose objectives are to analyse the development problems of Latin America and to suggest technical norms for a development programme and methods of projecting future needs, helped to instil that more comprehensive outlook. While its work was focused more on analysis than on planning, the increasing use of projections as a method of anticipating certain problems and analysing policy alternatives helped to lay the groundwork and provide a methodological tool for the preparation of plans.

Bolivia, Chile and Colombia were the first Latin American countries in this decade to formulate national development plans and to establish the necessary machinery, largely with the help of international technical assistance. However, it was not until the Punta del Este Conference in 1961, that the Latin American Governments recognized that planning should be the fundamental instrument for mobilizing national resources, bringing about necessary structural changes, enhancing efficiency and productivity and securing more international financial co-operation.

Since then, virtually all the Latin American countries have prepared plans of different kinds and scope. At the same time, the plans have been analysed and assessed by regional organs which have helped to sustain planning efforts by bringing them into line with the volume and orientation of foreign financial assistance.

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[1] This section of chapter VI is an abridged version of the ECLA secretariat's most recent report on planning in Latin America (E/CN.12/772), published in full in the *Economic Bulletin for Latin America*, vol. XII, No. 2 (October 1967). It deals with features common to the whole region so that certain comments may not be applicable to specific countries.

A valuable fund of experience has thus been built up, but its true significance may be hard to appreciate because planning is a relatively recent phenomenon and because of the circumstances in which it began. Until fairly recently, no experience had been obtained in this field, apart from some preliminary experiments and certain sectoral programmes, and the very idea of planning was resisted. There were no background data on which to draw for planning purposes, and no methodology that had already proved its worth in the particular circumstances of the Latin American economies. Nor was there a flexible administrative structure which could be adapted to functions and methods other than those enshrined by custom and tradition. Nonetheless, this period was marked by the preparation of the technical bases for planning and the training of cadres on an ever-increasing scale. All the countries now have the necessary machinery for the preparation and orientation of plans (offices and general plans); the criteria used in the allocation of resources are becoming more rational, especially in the public sector. Last but not least, planning has become a widely accepted idea.

(b) *Planning organs*

As planning is a new function of government, the first task to be undertaken was the establishment of special planning organs. The nucleus was formed by central planning offices, which evolved in different ways depending on the extent to which they were accepted as part of the traditional structure of government. Generally speaking, they were established in such a way as to become directly responsible to the Office of the President of the Republic. In some cases, an intermediate advisory body acts in liaison capacity between the planning office and the President and his Cabinet in which the major decisions are discussed and weighed.

Table 18 lists the different policy-making and technical offices to be found in Latin America, and indicates their structure. The situation is less homogeneous as regards the sectoral and regional offices since some countries have none, while others are still organizing them.

As a rule, the planning bodies act in an advisory capacity to the top-level political authorities. They often have other duties, such as helping to prepare the annual national budget estimates, advise on the external financing of particular investment projects, and co-ordinate foreign technical assistance.

Table

LATIN AMERICA:

Country; (1) : Year when first planning agency established;[a] (2) : Date when present system established	*Agencies responsible for policy lines (title and membership)*	*Technical agencies*
Argentina (1) 1961 [illegible] September 1966	National Development Council (CONADE): President of Argentina and Ministers	Secretariat of CONADE
Bolivia (1) 1953 (2) July 1963	National Economic and Social Development Council (President of Bolivia and the Ministers with economic and social responsibilities)	National Planning and Co-ordination Department (directed by the Minister of Planning and Co-ordination)
Brazil (1) 1956 (2) July 1963	Ministry of Planning and Economic Co-ordination. Consultative Planning Council (experts, press representatives, *entrepreneurs*, workers and state or regional development agencies). Advisory Group on Administrative Reform Studies; Alliance for Progress Liaison Committee; and Fund for Financing Project and Programme Studies	Short-term planning: Ministry of Planning groups; Long-term planning: Office of Applied Economic Research (EPEA)
Chile (1) 1939 (2) November 1964	Economic Committee of Ministers, presided over by the Minister of Finance. National Planning Office (ODEPLAN)	ODEPLAN
Colombia (1) 1951 (2) December 1963	National Council on Economic Policy (the President of Colombia, the Ministers with economic responsibility, Chief of Planning, Manager of the Bank of Colombia and Manager of the National Federation of Coffee Growers), and the Economic Advisory Group (eight members appointed by the President of Colombia on the basis of nominations by trade associations)	Planning Department

Sectoral agencies	*Regional agencies*	*Main achievements*
The Ministry of Public Works and Services and certain State enterprises work out sectoral programmes	Federal Investment Council	National development plan, 1965-69 National budget, 1966
In the Ministries of National Economy; Agriculture, Livestock, Land Settlement and Irrigation; Mines and Petroleum; Education and Culture; Rural Affairs; Health; and Labour and Social Security	In process of organization	Economic and social development plan, 1962-71 Sectoral plans 1963-64 Performance budget since 1961 Biennial economic and social development plans, 1963-64 and 1965-66
Sectoral planning sections in the Ministry of Planning. Specific bodies (e.g. Executive Group for the Integration of Transport Policy)	Ministry for Co-ordination of Regional Agencies (for Federal regional planning Agencies). Department for the Development of the Amazon Region; Department for the Development of the Nordeste. Planning bodies in almost all states, dependent on state governments	Target plan, 1957-60 Three-year economic and social development plan, 1963-65 Government programme of economic action, July 1964-March 1967 Ten-year plan, 1967-76 (in preparation)
Sectoral planning section of ODEPLAN. Sectoral offices in the Ministries of Agriculture, Housing, Education and Health; and in the Development Corporation (CORFO) for industry	Regional planning section of ODEPLAN Regional planning agencies (ORPLAN)	Performance budget since 1961 National economic and social development plan, 1962-70 Four-year public investment plans 1961-64 and 1962-65
Planning Committees (which establish the general policy, and are presided over by the Minister concerned). Offices of Planning, Co-ordination and Evaluation (technical)	Departmental Government: Advisory Council (policy) and Departmental Planning Section (technical). Autonomous Development Corporations: Cauca, Magdalena and Sinú, the Bogotá savannah and Ubaté-Chiquinquirá	Performance budget since 1964 Economic and social development plan, 1965-68

Table

LATIN AMERICA:

Country; (1): Year when first planning agency established;[a] *(2): Date when present system established*	*Agencies responsible for policy lines (title and membership)*	*Technical agencies*
Costa Rica (1) 1963 (2) January 1963	Ministry of Planning, Technical Committee for the Evaluation of Investment Projects (Ministers, senior officials and private associations). Consultative Planning Committee (Heads of Departments of the Ministry of Planning and representatives of private associations)	Ministry of Planning. Planning Office
Cuba (1) 1960 (2) February 1961	Central Planning Board (JUCEPLAN), presided over by the Prime Minister, and consisting of the Ministers responsible for the central economic agencies	Technical Secretariat of JUCEPLAN. Planning control activities: National Bank of Cuba
Dominican Republic (1) 1962 (2) November 1965	National Development Council (President of the Republic, Ministers of Finance, Public Works and Communications, Agriculture, Education, Health and Social Welfare; Governor of the Central Bankand Technical Secretary of the Office of the President; associate members: National Planning Director and National Budget Director)	Technical Secretariat of the Office of the President (directed by a Technical Secretary)
Ecuador (1) 1954 (2) August 1961	National Board for Economic Planning and Co-ordination (Ministers with economic responsibility, the Managers of the Central Bank and the National Development Bank, and three citizens of note)	General Office of Economic Planning
El Salvador (1) 1962 (2) April 1962	National Council for Economic Planning and Co-ordination (President of El Salvador, the Ministers of Finance, Economic Affairs, Agriculture, Labour and Social Security, and Public Works, the President of the Central Reserve Bank, two representatives of private enterprise, and the Executive Secretary)	Technical Planning Office, directed by an Executive Secretary

18 *(continued)*

PLANNING AGENCIES

Sectoral agencies	*Regional agencies*	*Main achievements*
In all Ministries and in the decentralized autonomous agencies	—	Plan for the national economy (annual, beginning 1962)
Each Ministry has to translate the instructions of the Central Planning Board into specific plans for each sector and unit	Co-ordinating Centre for Northern Oriente and Nuevitas	Sectoral short-term plans for energy, steel, petroleum, etc. National development programme, 1961-70 Five-year development plan (in preparation)
In the Ministry of Agriculture. To be established in Ministries with economic and social functions and in the autonomous institutions	—	Bases and directives for the programming of Ecuador's economic development Short-term development plan Performance budget since 1963 General economic and social development plan, 1964-79
Programming offices in the Ministries of Education; Public Works and Communications; Industry and Trade; Social Welfare, Labour and Public Health; Finance; and Agriculture and Livestock. Also in the Ecuatorian Land Reform and Land Settlement Institute and the Development Centre (CENDES)	Centre for the Economic Reconversion of the Austro; Board for the Economic Recovery of Loja and Zamora-Chinchipe; Centre for Rehabilitation of Manabí; Development Boards of El Oro, Carchi and Esmeraldas	Two-year public investment programme, 1964-65 Performance budget since 1964 National economic and social development plan, 1965-69 Annual public investment plans since 1966
Planning Committees are being organized in the Ministries of Public Works, Agriculture, Education and Public Health	—	Performance budget since 1964 National economic and social development plan, 1965-69

Table

LATIN AMERICA:

Country; (1): Year when first planning agency established;[a] *(2): Date when present system established*	*Agencies responsible for policy lines (title and membership)*	*Technical agencies*
Guatemala (1) 1954 (2) November 1954	National Economic Planning Council, Office of the President (the Ministers of Labour and Economic Affairs, Finance and Public Credit, Communications and Public Works, Agriculture Public Health and Social Welfare, the Presidents of the Bank of Guatemala and of the Institute for the Development of Production, and three representatives of the President of Guatemala)	General Secretariat of the National Council of Economic Planning
Haiti (1) 1962 (2) July 1963	National Planning and Development Department (CONADEP)	CONADEP
Honduras (1) 1955 (2) October 1965	Higher Economic Planning Council (President of the Republic, Secretaries of State for Economics and Finance; Communications and Public Works; Natural Resources; Presidents of the Central Bank and the Development Bank; one representative from management and one from labour)	Technical Secretariat of the Higher Economic Planning Council (directed by an Executive Secretary with ministerial rank)
Mexico (1) 1958 (2) March 1962	Inter-Ministerial Development Planning Committee (representatives of the Office of the President and of the Ministry of Finance and Public Credit)	Technical office of the Inter-Ministerial Committee
Nicaragua (1) 1952 (2) February 1952	National Economic Council (Ministers of Economic Affairs, Finance, Development and Agriculture, the Presidents of the Central Bank and of the National Bank, and the General Manager of the National development Institute. Planning Office, Office of the President	Technical Secretariat of the National Economic Council (under the Ministry for Economic Affairs)
Panama (1) 1959 (2) June 1959	General Office of Planning and Administration, Office of the President	General Office of Planning and administration. Departments of Planning Budget, Administrative Organization and Personnel Administration

18 *(continued)*

PLANNING AGENCIES

Sectoral agencies	*Regional agencies*	*Main achievements*
—	—	Short-term plan (two-year investment plan) Emergency programme (1966)
—	—	National public investment plan, 1963-64 Preliminary version of the four-year economic and social development plan, 1962-65 Performance budget since 1964 National and social development plan, 1965-69
In the Ministry of Agriculture	—	Sectoral plans Short-term plan, 1962-64 Development plan, 1967-70 (in preparation)
The secretariats of the Ministries, the decentralized agencies and the enterprises with State participation all work out investment programmes	National committees for specific projects (e.g. the Papaloapán Basin)	Performance budget since 1964 National economic and social development plan, 1965-69
Research and programming offices in most of the Ministries	—	Economic and social development programme, 1963-70 Performance budget since 1966
In the Ministries of Education; Agriculture, Trade and Industries; and Labour, Social Welfare and Public Health	—	Performance budget since 1963 Biennial plans, 1965-66 and 1967-68

Table

LATIN AMERICA:

Country; (1): Year when first planning agency established;[a] *(2): Date when present system established*	*Agencies responsible for policy lines (title and menbership)*	*Technical agencies*
Paraguay (1) 1948 (2) September 1962	National Council for Economic Co-ordination (President of Paraguay, the Ministers of Finance and Economic Affairs, the Chairman and a representative of the Monetary Board of the Bank of Paraguay. Two members of the Chamber of Representatives attend in an advisory capacity. The President may appoint three other members)	Technical Office for Economic and Social Development Planning, Office of the President (Executive Secretary)
Peru (1) 1962 (2) October 1962	National Council for Economic and Social Development (President of Peru, Ministers of Finance and Trade, Development and Public Works, Education, Health and Social Welfare, Agriculture, Labour and Indigenous Affairs, and the Armed Services Departments, and the Chief of the National Planning Institute)	National Planning Institute (whose Chief has the rank of Minister), the Advisory Planning Council (presided over by the Chief of the Institute, with a membership of representatives of *entrepreneurs*, workers, professionals and Universities)
Uruguay (1) 1960 (2) November 1966	Budget and Planning Office (directed by a Committee made up of the Ministers of Finance; Agriculture; Industry and Trade; Labour and Social Security; Public Works; Public Health; Transport, Communications and Tourism; and Culture; and presided over by the Director of the Office)	Budget and Planning Office
Venezuela (1) 1958 (2) December 1958	President of Venezuela, in the Council of Ministers	Central Office for Co-ordination and Planning

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[a] This relates to agencies that represent the origin of the present system.

18 *(concluded)*

PLANNING AGENCIES

Sectoral agencies	*Regional agencies*	*Main achievements*
—	—	Public investment programme, 1964-65 and 1966 Performance budget since 1963 Economic and social development plan, 1967-70
In the Ministries of Labour and Indigenous Affairs; Public Education; Development and Public Works; Public Health and Social Welfare; and Agriculture, Also in the National Town Planning Office and the National Economic Development Fund	Offices for the planning of geographical and economic regions, and political and administrative divisions, are envisaged. There are development corporations for Cuzco, Arequipa, Madre de Dios, Tacna, Puno and Ica	Performance budget since 1964 Bases for national development, 1966 Two-year development plan (in preparation)
In the Ministries of Agriculture, Public Education and Social Welfare; and Public Health	—	Economic survey of Uruguay, 1963 National economic and social development plan, 1965-74
Sectoral offices in the Ministries and autonomous institutions. Sectoral co-ordination groups	The Venezuelan Corporation of Guayana; Committee to promote the development of the Andos; and the Zuliano Planning Council	Four-year plan, 1960-64 Performance budget since 1963 Annual operational plan, 1964 National plans 1962, 1963-66 and 1965-68

(c) *The plans prepared*

In the majority of cases, the planning offices prepared "general medium and long-term development plans", for periods ranging from four to ten years. It was not long before nearly all the Latin American countries had such plans. The plan usually consists of a diagnosis, a set of projections and over-all and sectoral targets, a statement of particular social goals, a broad assessment of changes required and fields for the application of economic policy, some indications concerning research and utilization of specific natural resources, public investment targets and estimates of external financing requirements.

As an integral part of the over-all plan or to supplement it various countries have prepared public investment plans for two- or three-year periods which, in relation to the general macro-economic framework, specify the sectoral investment targets of government agencies (the central Government, autonomous agencies and, in some cases, State-owned enterprises), on the basis of draft or final projects. This is the kind of plan that has been most effective in bringing the planning offices into closer contact with the budgetary organs and in modernizing and streamlining government budgets. These plans have also proposed criteria for the allocation of resources to projects already under way, projects to supplement them or new projects, and have had to tackle the problem of distributing resources between productive investment, direct development expenditure, the expansion of current expenditure, and investment expenditure in the different social services.

Thus over-all long-term plans have made a major contribution to the establishment of general development policy. Supplemented by medium-term plans, they have served to rationalize public sector activities. However, the countries of the region have not made an analysis in depth of specific short-term economic policy programmes which help to ensure that immediate action is compatible with the long-term objectives.

The small number of annual operational plans, except for public investment schemes, can be explained by various factors, including methodological shortcomings and inadequate descriptions of individual projects and failure to establish short-term economic policies.

Experience with regard to regional plans has been varied, and the guiding principles observed in their formulation have not always been uniform. In some cases, for example, an attempt has been made to distribute by regions some sectoral public investment targets of the over-all plan. In other cases, the policy has been to formulate a general programme, more or less unrelated to the over-all plan, for an especially backward region or for a region with a very favourable combination of natural resources.

(d) *Implementation of plans*

Apart from the difficulty of assessing the various plans in terms of the actual expansion of economic activity, such an assessment may be meaningless in some instances, and in others may overlook or underestimate the contributions of planning.

Although a comparison of growth rates of the national product by sectors of economic activity, and of the aggregate components of demand (imports, consumption, investment and exports) with growth rate envisaged in the various plans, would seem to constitute a factual basis for evaluation, it would be hazardous to draw final conclusions from such figures other than the very general observation that as a rule there is a relatively wide gap between the targets of the plans and actual economic trends. The extent to which the plans were politically supported, their intrinsic nature, the evolution of exogenous variables mainly relating to foreign trade and financing, and many fortuitous factors would require detailed consideration of each specific case.

Much the same is true of the general lines of development policy followed in the plans. In most instances, they represent principles or proposals worked out before the plans were officially sanctioned and subsequently incorporated in them as decisions, but which thus give them impetus and directly or indirectly help to bring them into operation. Thus, although the progress achieved in certain fields may not be directly attributable to the content of specific plans, it is not unrelated to all that the planning process involves. For example, since 1961—when planning first became a widespread practice—agrarian reform laws have been passed by fourteen of the Latin American countries, and most of them are adopting tax legislation and improving tax administration with increasingly favourable effects on the income of the public sector.

From another standpoint, the preparation of plans has inevitably entailed a more thorough study of each country's economic situation and an investigation of the causes of its under-development. The planning effort has been reflected in substantial improvements in the basic statistical data available, has encouraged surveys of natural resources, created greater awareness of internal and external financing problems and helped to identify the essential features of a Latin American development strategy. Although all this has not produced immediate and tangible results, it implies a substantial though gradual change in the approach to problems. As the process has been gradual, this change of attitude has sometimes escaped notice, but when analysed, it reveals a considerable difference between the approach to development problems adopted by Governments and the public today, and the situation a few years ago.

One of the most direct and immediate results of development plans is the effort to rationalize the public sector, shown both in general policy and in the formulation of public investment plans, the use of programme and performance budget techniques and the evaluation of projects.

The general principles set forth in the plans have served to elucidate the development process and to weld into a whole the many and various piecemeal measures involved in government action. This does not mean that the decisions adopted have been strictly in line with the plans, but it does imply the existence of a yardstick to measure the deviations caused by unfavourable conditions and the extent to which favourable circumstances have been exploited. Furthermore, familiarity with the plans and public discussion of them at the national level, together with their evaluation by international technical agencies, have made for the inclusion of decisions requiring structural reforms.

The rationalization of public expenditure has been especially noteworthy in the countries where public investment plans have been drawn up, since sectoral budgets have had to be fitted into an over-all concept encompassing a breakdown of investment to be made by State agencies and projects and preliminary projects for a two-year or three-year period. Although in most cases the quantitative targets established may not have been attained, this is probably the type of plan that has operated most effectively in Latin America, among other reasons because it relates to one of the special provinces of the public sector, on which it is binding.

The adoption of programme and performance budgeting has gradually superseded the traditional process and has resulted in the increasingly rational allocation of public expenditure and investment. The efficient operation of this system calls for conditions that have not yet been fully established (skilled personnel, reliable statistical data, identification of executive units, integration of the accounting systems of the public sector, costing and evaluation, channels of communication between the central and sectoral budget offices, etc.). Nevertheless, in the countries where it is applied, budgeting and planning are better co-ordinated at the budget programming stage, and budgets are presented in a more rational form, than in the countries where it is not. At the same time, the processes of execution and evaluation of the budget are being brought into line with the new system, and some countries already have adequate machinery for accounting, costing and evaluation of results.

Where public sector projects are incorporated in an over-all strategy, the process of evaluating them has necessarily involved assessing their relative importance, establishing a satisfactory order of priorities, considering the compatibility of projects and groups of projects and taking into account their direct and indirect effects on the economy as a whole. It has thus been possible to prevent, in part at least, situations such as have recently arisen in some countries, in which the haphazard launching of projects has led to disproportionately heavy external borrowing or serious distortions of the structure of production.

(e) *External technical co-operation*

External technical co-operation has without a doubt exerted a marked influence on planning efforts in Latin America, directly in some cases and indirectly in others. It has been responsible for much of the headway made in overcoming limitations to planning. This influence has operated mainly with respect to methodology, training of cadres, the actual formulation of plans, and the promotion of specific projects.

Technical assistance in planning methods was particularly important because the region was lacking in experience, statistical and technical data were not abundant, and the economic and social characteristics of Latin America did not make it easy to transplant methods used in other parts of the world. Consequently planning helped to develop an appreciation of the efforts of international agencies to secure a fuller and deeper understanding of the Latin American economies and their development problems, and of the usefulness of their work in programming and projection techniques, programme and performance budgeting, and preparation and evaluation of projects.

This applies to some of ECLA's general studies,[2] and to its subsequent analyses of over-all programming techniques,[3] its specific studies on the development of a number of countries,[4] and its discussion of programme and performance budgeting and project preparation and evaluation techniques.[5] The Commission also helped to relieve the serious shortage of specialists in these subjects, by initiating training courses on development planning in 1952. These and other activities were considerably strengthened by the establishment of the Latin American Institute for Economic and Social Planning in July 1962. Its objectives are to strengthen the training programme, help Governments to initiate the planning process, and carry out studies on basic development problems and planning techniques.

The special impact of its training efforts has been reflected in the fact that only very recently have subjects specifically relating to planning and development been included in the regular curricula of Latin American universities. The first planning efforts were supported only by small groups of technical experts trained under special programmes designed and implemented by international agencies. While such programmes could not take the place of previous academic training, they have fulfilled a useful function by laying down general guidelines and providing the methodological tools required to cope with immediate responsibilities. Moreover, they have helped to bring together specialists with different technical backgrounds and experience (economists, engineers, sociologists, educators, doctors, administrators) for planning purposes on the basis of a minimum of common training and language, and to fit them for the teamwork that planning entails.

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[2] See, for example, "The economic development of Latin America and its principal problems", *Economic Bulletin for Latin America*, vol. VII, No. 1 (February 1962), pp. 1-22; *Economic Survey of Latin America, 1949*; and *Problemas teóricos y prácticos del crecimiento económico* (United Nations publication, Sales No.: 52.II.G.I). (Issued in English in mimeograph only, under the title "Theoretical and practical problems of economic growth" (E/CN.12/221).)

[3] See the provisional study on the technique of economic development programming, revised and reissued in July 1955 under the following title: *Analyses and projections of economic development: I. An introduction to the techniques of programming* (United Nations publication, Sales No.: 55.II.G.2).

[4] *Analyses and projections of economic development; II. El desarrollo económico del Brazil* (United Nations publication, sales No.: 56.II.G.2); *III. El desarrollo económico de Colombia* (United Nations publication, Sales No.: 57.II.G.3); *IV. El desarrollo económico de Bolivia* (United Nations publication, Sales No.: 58.II.G.2); *El desarrollo económico de la Argentina* (United Nations publication, Sales No.: 59.II.G.3/vol. I, vol. II and vol. III); *VI. The industrial development of Peru* (United Nations publication, Sales No.: 59.II.G.2); *VII. El desarrollo económico de Panamá* (United Nations publication, Sales No.: 60.II.G.3); *VIII. El desarrollo económico de El Salvador* (United Nations publication, Sales No.: 60.II.G.2); *IX. El desarrollo económico de Nicaragua* (United Nations publication, Sales No.: 67.II.G.2); *XI. El desarrollo económico de Honduras* (United Nations publication, Sales No.: 61.II.G.8).

[5] "The fiscal budget as an instrument in the programming of economic development" (E/CN.12/521); "*Algunas consideraciones sobre las relaciones entre la programación del desarrollo y el presupuesto fiscal*" (E/CN.12/BRW.2/L.5); "*La experiencia de algunos países de América del Sur en materia de reforma presupuestaria*" (E/CN.12/BRW.2/L.9); *Manual of economic development projects* (United Nations publication, Sales No.: 58.II. G.5).

The co-operation first, of ECLA, and later of the Institute, has also been extended to cover the provision of advisory services for the purpose of organizing and establishing planning machinery and formulating plans. Several countries have obtained the co-operation of "advisory groups", set up by these international agencies most often with the participation of the Inter-American Development Bank (IDB) and the secretariat of the Organization of American States (OAS), or with occasional advisory services in specific fields. Later, such services were also offered by official agencies or foreign foundations under bilateral co-operation programmes.

2. OBSTACLES TO THE IMPLEMENTATION OF PLANS

Although planning in Latin America has made a number of important advances in certain aspects, it still has serious weaknesses, and improvement of planning and implementation of plans is still being hampered. Recently, the planning process has been experiencing a period of stagnation, and in some cases can be seen to have lost ground. The impetus to prepare the over-all plans has spent itself, and the same fervour has not been applied to the tasks of translating over-all planning policy into specific economic policy programmes and short-term operational plans and establishing efficient instruments for the periodic review and up-dating of plans and the evaluation of their implementation.

It is in such tasks that the various limitations and obstacles are most apparent. Some of them stem from internal factors, ranging from the most general, including the political stability or amount of political support that planning efforts actually enjoy, to factors more directly related to the actual operation of planning machinery. In evaluating these latter factors, particular account should be taken of the relatively short period of time that has elapsed since planning was initiated, and of the fact that in other countries efficient planning was the fruit of many years' sustained effort. The following summary focuses on the internal obstacles to effective planning. It should be kept in mind, however, that a number of other—usually serious—problems, arising from external factors, mainly related to instability and the limited development of foreign trade and inadequate conditions of external financing are impeding the attainment of planning targets in Latin America.

(a) *The functions of planning*

Although the need for planning as an instrument for a coherent development policy has been generally accepted, there has been no effective unity of aims as regards planning aims and basic priorities. From the beginning, a number of different attitudes emerged. In some instances there was a tendency to regard planning primarily as an instrument for mobilizing external financial resources and as an additional requirement for international financial co-operation, thus emphasizing the urgency for some kind of plan and tending to highlight those aspects of the plan most directly related to foreign aid. In others, planning was seen from a professional and theoretical point of view as an instrument for shaping the structural changes essential to Latin America's development and an expression of an action programme by the various economic sectors aimed at achieving economic and social gains which planning itself would help to formulate. Sometimes, planning was identified as a means of attaining the limited goal of more rational administration. In one way or another all these points of view were incorporated in the plans drawn up, but substantive aims of economic and social policy often were not reflected in specific decisions.

The problem is particularly important since the structural changes essential to the development of Latin America confront the planners with a task that is different and more difficult than planning in developed economies, where the changes required are usually less drastic and where there is a wider consensus on more issues.

Moreover, those different outlooks have given rise to a destructive and sterile controversy concerning the planning most suitable for Latin America, based on much confused thinking. It has been argued that "overall" or "macro-economic" planning should be abandoned and that effort should be concentrated on building up a sufficient number of well-planned specific projects. On the other hand, where stress has been laid on planning as an instrument for formulating basic long-term policy, immediate problems have sometimes been neglected or deferred for future study. Instead of attempting to co-ordinate efforts to define long-term policy, which are indispensable to effect the wide-ranging changes essential to Latin American development, with the machinery designed to implement that policy by immediate action, there has been a tendency to reject or underestimate one aspect and concentrate exclusively on the other.[6]

(b) *Political support for planning*

The need to plan the economic and social changes essential to the development process raises the problem of the political viability of Latin American plans and the amount of effective support required by the planning effort. The plans generally encounter resistance from sectors which feel threatened by specific measures or are exerting pressure for a larger share of national income. At the same time, they often encounter resistance from the traditional government administration, which is reluctant to institute changes and jealously guards its policy-making power against any possible transfer of authority which may imply reorganization of the administrative structure to facilitate the establishment of the policy-making machinery which planning requires.

Thus, plans inevitably encounter serious obstacles during the implementation stage which cannot be overcome unless the Governments provide ample and sustained support, a support which is not always forthcoming in Latin American experience.

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[6] These and other problems touched upon in this chapter were the subject of detailed study at a seminar organized by the Latin American Institute for Economic and Social Planning and held in June 1965. In this connexion, see *Discusiones sobre Planificación,* Textos del Instituto (México, Editorial Siglo XXI, 1966).

Moreover, apart from substantive reasons, the difficulties of successful planning arise to some extent from the manner in which the plan takes shape. In some cases, there was little or no communication between the technical planning officials and the government departments during the preparatory stages.

(c) *Participation of the private sector*

The problem of political support is even greater where the private sector is concerned. Resistance from some parts of the private sector is inevitable whenever plans incorporate decisions to institute changes affecting specific situations or interests, but there seems to be a wide margin of potential support which has not been mobilized because of deficiencies in the planning process itself.

In general, there is a lack of communication between planning organs and the private sector. Rarely is any attempt made during preparation of the plan to consult representative national opinion groups (parliament, political parties, trade unions, employers' associations, universities, etc.) or the sectors directly concerned (*entrepreneurs*, importers, exporters, consumer associations, etc.).

This phenomenon, like others, arises partly because planning is not expressed in terms of specific economic policy measures which might induce the private sector to follow particular guidelines. The private sector regards the plan as an over-all review of the economic situation providing valuable information on the intentions of the public sector, but the plan does not guide its activity by providing incentives or disincentives—in the form of credit, trade or tax policy measures, for example.

(d) *Operation of planning machinery*

The varying degrees of political support for planning, the poor definition of its functions and of its relationship with the decision-making centres, and the limited participation of the private sectors, are not calculated to promote the more efficient operation of the planning machinery. On the other hand, its operational flaws and weakenesses make yet more remote the possibilities of forging closer links between the planning offices and the permanent decisions of the government authorities and other interested sectors.

The opposition which is bound to arise from the traditional policy-making organs, both among the political authorities and in the national administration as a whole, would seem to necessitate some sort of "strategy" for introducing planning machinery, which would obviate such friction as far as possible so that planning could be progressively built into the administrative structure and procedures.

In this respect, planning in Latin America has manifested serious shortcomings. Isolated as they usually are from the traditional channels of administration and decision-making, the planning offices have often been saddled with the responsibility of preparing a development plan with a minimum of guidance from the political authorities or none at all. As a rule, contacts have continued to be sporadic and inadequate through the formulation stage, and the planning agencies have not been punctual in presenting the technical alternatives, together with a justification and evaluation of implications, which would have required decisions at the political level. In the circumstances, the plan which has been drawn up has not been discussed in sufficient detail by the various government policy-making and executory organs, and therefore creates resistance in the ministries and decentralized agencies.

There have also been instances of an over-concentration of resources and activities in the central planning agency. While such a concentration was essential at the time, the result was that a high proportion of the planning experts—who are in any case few and far between—were grouped in this central office, and since the Ministries and autonomous agencies have done very little in the way of planning, that office has tended to assume direct responsibility for the preparation of sectoral plans and projects.

While there would seem to be every justification for making the central planning office a division of the Office of the President of the Republic since the support of the Chief of State and his Cabinet is a *sine qua non* for the satisfactory operation of the central agency, this has not automatically guaranteed the central planning body the stability and backing it needs, or the maintenance of easy channels of communication. In some instances, a change of government has halted planning processes that were making good headway, and in others it has pumped new life into efforts that seemed to be petering out. An attempt has been made to maintain communication through development councils or boards consisting of ministers, high-level officials and technical experts. However, these organs have not always served their purpose. In other instances they have done useful work in co-ordinating development policy with the work of other departments of the national administration, but this co-ordination is apt to peter out at the operational level for lack of proper direction and supervision. The absence of efficient sectoral and inter-sectoral co-ordination machinery means that the co-ordination achieved at the core of the system weakens or disappears altogether at the lower levels as a result of organizational and procedural deficiencies.

The direct link between the head of the central planning office and the President of the Republic which exists in some countries seems to impart greater flexibility to the central planning agency by forestalling the difficulties inherent in the operation of pluripersonal bodies, which in Latin America have as a rule proved to be slow-moving and lacking in dynamism. It is observable, however, that when the technical director of the planning office does not have ministerial rank or a voice in the Cabinet, he finds himself at a definite disadvantage, and the central planning agency cannot discharge its functions efficiently, especially that of co-ordinating the public sector for purposes of implementing the plan. At the same time, the technical director in charge of the central agency is exposed to political pressures, and is often replaced when the Government changes, since he is held responsible, whereas that responsibility would otherwise be assumed by the planning council or board.

The sectoral planning agencies are generally weak and faced with organizational and precedural problems. However, this is far from the rule in the various ministries and decentralized agencies. They are often regarded merely as operational instruments for compiling statistical data: they are assigned routine duties which relegate programming activities to a secondary status, or they are used as agencies for the study of the most widely varying questions. They do not get the political support they need to carry out their functions, and are usually cut off from the central planning agencies, the operational agencies of the ministry concerned, and the decentralized and autonomous agencies in their sector.

Similarly, regional planning has had to cope with innumerable obstacles, not the least of which is the fact that political divisions and economic areas are not the same. Since the regions suitable as a basis for planning often comprise different political divisions, each with its own interests and provincial, state or local pressure groups, it is very difficult to reconcile opinions and advance towards common objectives. Furthermore, some provincial or state governments are riddled with administrative weaknesses or are not sufficiently active in promoting economic and social development.

In the last analysis, those problems are simply so many corollaries of the general rule that planning organs have been superimposed on an administrative structure which has not been adapted to the demands of planned development policy.

In recent years, several countries have established central organization and methods offices, which have assumed responsibility for administrative reform. In many cases, these central offices have had no connexion with the agencies of the planning system, or with those in charge of staff and budget administration. Action taken to promote the reform has therefore had nothing whatever to do with national development activities. Thus, although general planning efforts have indirectly served to focus attention on administrative streamlining, this task has usually been undertaken independently of economic development policies.

(e) "*Operability*" *of the plans*

In addition to the problems arising from administrative organization and the position of planning machinery within the administration, other factors help to widen the gulf between the planning organs and the policy-makers.

The trouble is, in essence, that the plans formulated thus far cover only a part of the planning process; in other words, the planning effort has not yet been carried through to a conclusion, either from the standpoint of the plans drawn up or from that of the establishment and operation of effective machinery for the periodic revision of plans and for the supervision and evaluation of their practical application.

Many of the over-all plans embody forecasts based on an improvement —sometimes substantial—in previous trends and on the anticipation of potential limiting factors. As a result, the over-all plans leave a wide gap between macro-economic considerations and general principles and their implementation by means of specific policies (monetary, exchange, fiscal) and operational plans. At the other extremes, some plans for immediate action which have begun to operate merely enumerate partial proposals and certain specific projects, often without evaluating them in broader perspective.

The lack of an effective "bridge" between the two dimensions of the planning effort has been detrimental to the two types of plan, in the first instance because it greatly detracts from their viability, and in the second because the plans fail to come to grips with the fundamental obstacles to development. This absence of an organic relationship between the long-term general plan and the corresponding specific plans in terms of the use of the various instruments of economic policy and mobilization and allocation of resources is still one of the principal shortcomings of planning efforts in Latin America.

It is as much the result of poorly conceived development policy as it is of failure to design and implement effective short-term planning schemes.

The lack of a clear definition of that policy is reflected in the fact that the growth targets of long-term plans are not usually expressed in terms of the employment, productivity and training of human resources. Despite the significance and magnitude of the under-employment problem in Latin America, most plans do not deal with it specifically, and little attention is devoted to the occupational structure and educational pattern of the employed population. Similarly, due regard is not given to the supply and demand for labour, and the need to bring the economic expansion targets established in the plan into line with available manpower, and particularly skilled labour. The problem of sectoral differences in productivity and the assimilation of technology is hardly mentioned in the majority of the plans, and the relevant proposals are confined to the broadest generalizations, no attempt being made at analysis in depth.

Much the same may be said in connexion with the continuing high degree of income concentration in Latin America, which is another factor exerting a marked influence on the region's development. The plans often allude to this problem in the diagnosis, and even go so far as to list certain general palliatives (absorption of unemployment, increases in productivity, and/or price and wage, tax, public expenditure and education policies); but these statements of principle are not translated into specific terms, nor is due allowance made for the effects of the targets established in the plan and in the proposals for attaining them on income distribution.

Finally, it should be pointed out that with the exception of Central America, most Latin American development plans have not explicitly incorporated the regional economic integration prospects in their plans as a variable affecting their development policies. Integration appears to be following its own course, along channels relatively far removed from planning efforts. Although there are several fundamental reasons for this phenomenon, it would seem reasonable to suppose that this separate development is also affected by the fact that economic integration would raise new problems and the technical planners do not have the necessary methodological instruments to cope with them.

(f) *Specific investment projects*

There is no doubt that the lack of sufficient specific investment projects has proved a serious obstacle to the effective implementation of Latin American development plans.

This subject was examined in detail at a seminar at which a number of suggestions were put forward, which might appropriately be summarized here.[7]

One suggestion referred to the need for a very broad interpretation —particularly under present-day conditions in the Latin American economies—of the "project" concept, covering every unit of activity capable of implementing a development plan.

The persistent shortage of projects despite the progress achieved in regard to certain immediate factors which are usually regarded as decisive, posits the existence of other root causes. It develops that the shortage of projects is merely another manifestation of the weakness of the decision-making and implementation machinery. The shortage of projects is no more acute than it was before in absolute terms; quite the reverse. What seems to be happening is that traditional policies of unplanned development in one way or another provided incentives for public and private enterprise which led to the formulation of specific projects, some of them of marked importance. There is still a continuous flow of investment decisions, some of which materialize in project form, but planning has imposed additional and much greater demands.

First, projects are now required to meet specific investment objectives and targets stated in the plans and to fit into certain over-all strategies. In so far as they are not clearly defined, these objectives and that policy do not provide sufficient incentives for suitable projects, nor do they in themselves represent strategic projects. The economic integration of Latin America illustrates this point: until the political decisions have been taken and political agreements concluded at the appropriate levels, no public or private initiatives in the form of specific projects can be launched.

Secondly, planning not only requires the initiation of a certain number of projects but also arranges them in the proper order of priority and determines the relationship between projects and groups of projects with due regard for their direct and indirect effects on the economy as a whole.

Viewed in this context, the problem of promoting, identifying, preparing, evaluating and executing projects is closely linked with the establishment of an effective planning system and with the necessary administrative reforms. Naturally, the difficulties of translating a development strategy rapidly into operational plans cannot be disregarded, any more than can the difficulties connected with the shortage of trained personnel, experience and technological resources. When the first plans are drawn up, a high proportion of investment capacity—particularly in the public sector—is tied up in projects in progress, which can only occasionally be replaced by other projects better adapted to the new plans. In other words, the maturation period of projects of a certain magnitude tends to be longer, as suggested by the experience of the International Bank for Reconstruction and Development, which found that a large power or transport project may take from three to five or more years from the time it is decided to undertake the economic and engineering studies to the time they are completed and the financing of the project can be approved and implementation started.

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[7] See footnote 6 to this chapter.

(g) *Availability of information*

Improvement of the planning process in Latin America is being hampered by problems of the availability and quality of the basic information on which it relies. The information is mainly, but not exclusively, statistical data.

There are serious deficiencies in the quantity, quality and timing of data that are basic to planning. Moreover, full justice has not been done to the statistical function within the planning effort. In general, national statistical offices occupy a very subordinate role in public administration as a whole; their employees are frequently ill paid and their staff unqualified. Very few have adequate financial resources or mechanical equipment for the efficient collection and elaboration of data. From another standpoint, there are gaps in the legislation making it compulsory to supply certain data and, above all, in the machinery for giving effect to that legislation. The various sectoral, regional and local statistical services are not sufficiently co-ordinated and national statistical programmes have not been drawn up.

Problems have also cropped up in relations with the users, one being underestimation of the information requirements of the public administration and private sector. Moreover, proper facilities have not been set up to enable the offices providing the data to use them as a guide in decision-making. Relations with the planning offices in particular are usually characterized by sporadic demands for data, made when plans are already in course of preparation. These relations have never been systematized, let alone developed into a mechanism providing a permanent flow of up-to-date information that would facilitate the periodic revision and evaluation of plans.

The quality of the data is uneven, depending on the sectors to which they refer. Foreign trade statistics are the most accurate, followed by population data, while data on domestic trade, services construction, road transport, and unemployment are particularly poor. When censuses are used as a basis for the work, there is a lack of continuity, one of the results of this being the preparation of a new industrial directory every time an industrial census is taken instead of the up-dating of an earlier edition.

Delays are a common feature of the data processing, but in some cases attempts have recently been made to overcome this problem by using sampling techniques. Another shortcoming is the lack of a systematic and continuous series of indicators for tracing short-term changes in the economy. Lastly, there is usually a long delay before the data are published.

B. Social development and social policy [8]

The methods of development planning discussed above were worked out by economists centrally concerned with increasing the production of goods and services, who were relying on the composite indicator of *per capita* national product for assessment of progress. The general endorsement of planning by the Latin American Governments around 1961, however, was accompanied by agreement that a number of objectives of a social character should be reconciled with economic objectives through the planning systems.

The terms "social development", "social planning", "social aspects of economic development", "balanced economic and social development" and the like were already current in international usage. Since 1961, international meetings on one variation or another of this theme have brought forth a formidable body of documentation. Courses in social planning have been organized, experts in social development sent forth to advise countries, social divisions of national planning offices have been created, and social and economic programmes lie side by side in numerous published plans. A close look at the present situation, however, reveals a remarkably wide gap between aspirations and realities. Neither the conceptual nor the practical problems of the incorporation of social planning into comprehensive planning have as yet received satisfactory solutions. Allocations to social programmes, new social legislation, and creation of new social agencies are only exceptionally guided by the planners' conceptions of interrelationships and priorities.

In fact, the term "social" does not refer to a clearly delimited area of policy or planning in the Latin American countries at present. The meanings attached to the term itself, the character of the measures commonly considered social, and the justifications and pressures underlying the expansion of social programmes are alike heterogeneous. In order to arrive at a clear conception concerning the potential application of a "social" category for the organization of certain sectors of policy and planning, including education, it will be necessary to consider separately the three levels at which the term "social" can cover differing meanings, differing types of action, and differing motivations.

1. INTERPRETATIONS OF THE TERM "SOCIAL"

In its broadest sense, social means "pertaining to society" or "collective". In this sense, economics is a "social science", all aspects of development are parts of a global "social process", and all facilities for general use by members of the society, are investments in "social infra—structures".

When the term "social" is coupled with "economic", however, the user commonly has in mind one of two narrower interpretations, or both of them together. "Social" may refer to human welfare and "social development" to the rising levels of living and more equitable distribution of material and cultural goods that are expected to accompany the increases in production brought about by "economic development". Alternatively, "social" may refer to the structures of society and "social development" to the changes in stratification and mobility, the widening participation in the national community, that are either prerequisites for economic development or concomitants thereof. These two latter interpretations of the social imply different —although not incompatible—approaches to the incorporation of the social into planning, and are put forward by persons with different backgrounds—the former mainly by social administrators, the latter mainly by sociologists. With these two approaches a number of terms have come into international usage without acquiring precise definitions.

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[8] This section is an abridged and revised version of parts of " 'Social development' and 'social planning': conceptual and practical problems in Latin America" (E/LACCY/BP/L.4), in *Economic Bulletin for Latin America*, vol. XI, No. 1 (April 1966), pp. 42-70.

'Social situation", "social field" and "social sector" imply, more often than not, that the user has in mind the human welfare interpretation of the social. "Social prerequisites", "social factors" and "social obstacles" are more likely to be associated with the "structural" interpretation, while "social aspects" can be found prefixed to almost any topic being discussed under either interpretation.

The "social situation" appeared in United Nations usage around 1950 as a counterpart to the more easily envisaged "economic situation", and although the "world social situation" has been the subject of a series of reports, these have relied upon pragmatic criteria for their coverage.Their topics have been determined partly by the organizational structure of the agencies in the United Nations family and partly by the content of the parallel conception of "level of living". The latter term has been the subject of considerable international discussion and has received an agreed-upon definition, but has remained a conglomeration of "components" measurable in part by separate "indicators", both the components and the indicators remaining resistant to all attempts at integration or synthesis.

The terms "social fields" and "social sector" usually refer to the areas of public social action deriving from the general human welfare conception and relating to one or another component of the level of living. The use of these terms, while unavoidable, has encouraged mental images that hardly contribute to the cause of clear thinking. At times the users seem to envisage a definite number of social fields, large and small, that lie side by side, that can be merged into one big social field, and that can be fenced off from an "economic field" as a preliminary to deciding how much money is to be used to manure one field or the other. Or the image may be evoked of a social pie divided into "social sectors". The summary below of the topics commonly identified as fields or sectors raises the question whether the big social field can be accepted even as a convenient abstraction. The more comprehensive the attempt to distinguish all the social fields or sectors the more anomalies appear: the fields overlap one another, stand in quite different relationships to human welfare, call for quite different kinds and combinations of public and private action.

The terms "social prerequisites", "social factors" and the like have their own inadequacies. The user is likely to envisage a developmental process that is centrally economic, but that will run more smoothly if social lubricants are added to the machinery or social grit is flushed out of it.

Under such an interpretation, social specialists complain, they are likely to be called in only at a secondary stage, to propose additives or tactical modifications for economic plans constructed without their full participation.

2. SOCIAL SECTORS AND STRATEGIC OR INTEGRATIVE APPROACHES TO SOCIAL POLICY

The policy areas generally considered "social" can be divided into two main groups:

(*a*) The conventional sectors of public social action and the sectors (mainly identifiable with components of the level of living) in which other more or less coherent public programmes might be envisaged. A composite list drawn from the components of the level of living agreed upon in United Nations usage and from the administrative divisions of the United Nations agencies concerned with social programmes includes the following: education, health, housing, food consumption and nutrition, clothing, employment and conditions of work, social security, social service (or social welfare), social defence, recreation and human freedoms. Other "sectors" of minor importance might be added. Among the sectors listed above, education stands out in many ways: in the size of its claims on public resources; in the importance of public initiative relative to private; in the degree to which the forms of public action are readily definable and, in principle, subject to unified direction. The distinguishing characteristics of the other sectors cannot be discussed here, but it is evident that they differ widely not only in the techniques of sectoral programming needed, but also in the degree to which such programming is feasible, relevant, or desirable;

(*b*) Policy approaches that purport to focus action in several of the conventional sectors—economic as well as social—upon a broad problem area or a defined stratum of the population, or to organize such action around a specific interpretation of priority objectives or key factors in development. Such approaches can be associated with either the human welfare or the structural change view of social development. The strategic or integrative approaches most prominently advocated in Latin America today involve policies for redistribution of incomes and wealth, control and redistribution of population, human resources development, regional development, urban development, and rural development (including agrarian reform). The problems of children and youth also come up in discussion as an appropriate area for the application of over-all policies and plans. Each of these policy approaches implies far-reaching changes of emphasis in a series of sectoral programmes. Under each heading, moreover, several quite diverse diagnoses and policy recommendations are now being offered to the national authorities.

3. JUSTIFICATIONS FOR SOCIAL MEASURES AND INFLUENCES UPON THEIR GROWTH

The past two decades have seen, in Latin America as well as in other low-income regions, a remarkably rapid expansion and diversification of public social action, particularly at the level of enactment of laws and creation of institutions. This expansion has coincided with the growth of the inter-governmental agencies and the endorsement by their member States of such social objectives as human rights. In practice, this has meant that societies in which social programmes have reached a high degree of complexity and costliness have become models and suppliers of expert advisers to countries in which low income levels and the economic, social and political marginality of large parts of the populations place quite different limits on internal capacities for the support of such programmes and on the likelihood of their effective functioning. While costs have risen, widening discrepancies have appeared between the social rights guaranteed in laws and constitutions and the meagre benefits actually received by the masses of the people. The ineffectiveness and bureaucratization of many programmes has strengthened the skepticism of the advocates of concentration on directly productive investments.

The proponents of the social programmes have thus been increasingly impelled to reinforce the human rights justification by evidence of contributions to the general developmental process and of the attainment of greater internal efficiency. This has led them, on the one hand, to a quest for criteria for the "balancing" of social sectoral allocations with each other and with economic allocations and, on the other, to a quest for sectoral programming techniques, in which they have borrowed extensively from economic programming. In these approaches to social planning, the element of promotion has inevitably been prominent. The advocates of each form of social action have tried to stake a claim, in terms convincing to political leaders and planners, to a larger share of national resources.

These trends have coincided with the interests of a good many economists, who began to envisage the social programmes, or some of them, as essential contributions to economic development and thus to evaluate them as "investments" with returns potentially translatable into monetary terms; the phrase "investment in human resources" became current. A series of economic studies indicating that a very large share in the generation of economic growth must be attributed to an ill-defined but largely "social" residual factor rather than to inputs of capital and labour, induced economic planners to turn their attention to this aspect. At the same time, speculations began to be heard on the possibility of constructing mathematical models incorporating all of the social as well as the economic variables relevant to development. This support was received by the promoters of the social programmes with gratification mixed with a certain uneasiness. They could not accept the investment criterion as primary without risking, from the human rights point of view, serious distortions in the content of the social programmes and a refusal to allocate any resources to forms of social action for which "returns" could not be demostrated. At the same time, the initial attempts to measure returns on investment in such sectors as education and health or to treat these sectors as input-output models led to such formidable conceptual and practical difficulties that some economists have come to doubt whether such exercises will ever be useful tools in the quest for criteria for social allocations.

Meanwhile, diverse pressures and demands deriving from the character of the social structures and the processes of social change now under way are confronting both the human rights and the human resources development justifications for the social programmes. Previous chapters have described the aggregate effect upon the lines of growth of education of the various justifications, values, pressures and demands, and the situation in the other social sectors is roughly similar. At this point, it may be worthwhile to try to derive from this situation certain prerequisites for social policy and planning which may possibly influence the course of development in Latin America, and to formulate certain conclusions.

4. PREREQUISITES FOR EFFECTIVE SOCIAL POLICY AND PLANNING

(*a*) Such policy and planning must attempt to rationalize the struggles within what have been called "conflict societies", in which different classes and organized interest groups hold to widely separated interpretations of what is needed, and in which the real objectives of these groups—whether consciously formulated or not—may be in contradiction to the publicly agreed upon objectives of development and social justice. In Latin America today, these struggles are conditioned by the juxtaposition of urban minorities that have attained or are determined to attain the consumption standards typical of Europe and North America with other groups having widely differing levels of living, aspirations, and degrees of integration into the national society. The latter groups include rural populations that remain "traditional" and more or less isolated from the national society by prevailing systems of land tenure, local administration and patterns of settlement; but they also include rapidly growing groups that are mobile geographically and occupationally, that are increasingly moving into urban or semi-urban settings, and that are increasingly able to make their influence felt in the political process. In the ideologies that purport to represent the points of view of different groups in the societies (and that have been labelled "nationalism", "populism", and "modern traditionalism") and also in the behaviour of individuals, including political leaders, administrators and planning specialists themselves, one finds an unresolved mixture of the traditional with the modern or innovating. The most basic hungers for bread and shelter combine in their pressure upon resources with hunger for television sets and automobiles. Reliance upon the State to resolve all problems of livelihood and social change coexists with extreme apathy or hostility toward the public authorities;

(*b*) Policy and planning must take into account the pre-existence of extensive social legislation, fixed investment in social capital, social institutions with their own clienteles and pressure groups, resistant to planned change or integration. The expansion of public social action in the region has been accompanied by the growth of devices such as earmarked taxes, autonomous agencies, separate social security funds for different categories of insured, that are designed to protect specific social programmes or categories of beneficiaries against changes in the allocation of resources; social measures are typically governed to the smallest detail by legislation and each extension of the measures makes the legislation more complicated and administration more costly. At the same time, the social structures and the unequal participation in decision making by different strata of the population have tended to distort the functions of the social institutions, assessed from the points of view of development or of social justice. The most important of these distortions relate to the "redistribution" of incomes and of opportunities for mobility that ensues when the whole society is taxed to provide services that are in practice within the reach only of certain relatively well-off and well-organized elements—as has notoriously occurred in the instances of secondary and higher education, social security and public housing. Another distortion is the bureaucratization that occurs when the function of providing jobs for members of the upper and middle strata comes to encroach on the overt functions of the institutions. Universalization of the public services already declared to be "rights" in many of the national constitutions would—at present *per capita* costs—require astronomical sums.

In addition to these broad problems deriving from the social structures of the region, two kinds of challenges to planning set by the present characteristics of the governmental machinery deserve emphasis;

(*c*) Policy and planning must, at least in their early phases, adapt themselves to a typical combination of frequent changes in the higher policy-making personnel of the Government with the continuing existence of elaborate centralized administrative apparatuses lacking in capacity for initiative and resistant to change. These apparatuses, in most countries, are overstaffed but have few officers, if any, trained in modern administrative practices. Frequent changes in programme directives may thus exert only a superficial influence on the behaviour of the personnel actually applying the programmes. Planning procedures and models introduced into this kind of setting must guard against a real likelihood of becoming additional sources of rigidity and bureaucratization;

(*d*) In the same countries, provincial and municipal administrative machinery is typically weak, both in staffing and in fiscal resources, and is usually dominated by narrow local cliques. This situation throws a heavier burden on the central authorities for detailed local decision-making, and at the same time exposes them to strong and persistent localistic pressures for allocation of resources, expressed through political channels.

The prerequisites for a valid interpretation of social policy and planning enumerated here are formidable. Not a single country of the region has yet fulfilled them, and they only have to be formulated for it to be clear that they never will be fully or perfectly satisfied.

The ideal of comprehensive planning will continue to be confronted by the limitations of the human mind in its capacity to grasp simultaneously all the relevant factors, and by the limited capacity of governmental machinery to translate plans into action.

5. SOME CONCLUSIONS

(*a*) National economic policies are in practice as likely as social policies to derive from isolated initiatives and contradictory pressures, and the principles that should govern them are subject to continuing controversy. Economic policies, however, can be referred to a few easily formulated objectives and to a central discipline of economics seeking to explain the process of economic growth as a whole. Social policies have been more heterogeneous in their origins and objectives. The discipline of sociology has not, during the recent years in which planning has gained acceptance, been in a central position to influence policy or advise on the translation of policies into plans;

(*b*) The uses of the term "social" at the levels of development policy, planning and sectoral programming require separate consideration. Development itself is a single phenomenon, the nature of which is obscured when it is interpreted as two processes, of "economic development" and "social development". At the level of development policy, however, the specification of social objectives (rising levels of living, more equitable distribution of incomes, wider opportunities for social participation and mobility), distinguished from economic objectives, is indispensable. In such formulations the social programmes or areas of public social action should be treated as instruments rather than as ends in themselves; a listing of quantitative targets in the different social sectors does not constitute an adequate statement of objectives. Ideally, the process of formulation of social policy objectives should be part of a quest for a national consensus concerning the future society towards which such policy is directed;

(*c*) At the level of planning to attain the objectives set forth in development policy directives, there does not seem to be an adequate justification for a grouping of the so-called "social sectors" under a separate conception of "social planning", although it may be administratively advantageous to group the specialists responsible for these sectors in a "social" division of the agency responsible for national planning. The representatives of the sectors are unlikely to be willing or able to reconcile their claims upon resources within a "social plan" prior to the incorporation of such a plan into over-all plans. The problems of fixing compatible targets and distributing resources in order to reach these targets can be dealt with satisfactorily only within comprehensive planning. The terminology in use up to the present and the typical compartmentalization of public administration have fostered conceptions of the economic and the social as two "fields" competing for resources, while the need is for an integrated strategy of development in which economic and social measures are both focused upon necessary structural changes;

(*d*) At the level of programming, each social sector has distinct problems of administrative efficiency, personnel training and standards, quantification of objectives, research and obtaining of statistics, relations with its clientele, etc. A certain amount of real progress can be made towards more effective sectoral programming, even in the absence of coherent over-all policy decisions and planning machinery, but such progress has obvious limitations and dangers. It cannot be taken for granted that quantitative increases in the coverage of action in each sector, measured through the indicators now available, will produce unmixed benefits for the society as a whole or that such increases will justify priority for allocations to the sector;

(*e*) The above generalizations do not imply that social allocations can or should be determined by economic criteria, in terms of calculations of monetary returns on investment. Even aside from the practical difficulties of calculating such returns in a meaningful way, and the fact that some of the most promising strategies for social change do not call for commensurate allocations from the public sector, such an approach would leave out of account large areas of the preconditions and the objectives of development. Attempts to apply criteria of economic rationality to expenditures on social programmes cannot be pursued beyond a certain point without running into open contradiction not only with the ways peoples and nations actually behave but also with their deepest value systems. No people is so poor that it will be prepared to do only the things it can afford according to a utilitarian scheme of priorities, and a systematic attempt by planners to apply such principles, even if practicable, might well involve an impoverishment of culture and initiative that would frustrate healthy development more than the apparent waste of resources;

(*f*) While policy-making and planning processes which would be more coherent than those at present in use are attainable and indispensable, social and economic programmes cannot be expected to respond exclusively to neutral planning techniques or even to completely consistent public policies. A large part of the task of the policy-maker and planner under conditions typical of Latin America will continue to be the reconciliation and rationalization of pressures from different directions. This situation should by no means be interpreted exclusively as a hindrance to dynamic and integrated policy and planning. Planning techniques cannot be expected to reach infallibility and they will continue to be applied by planners subject to prejudices and limitations of vision deriving from their own social and educational backgrounds. Demands expressed through political channels and organized interest groups are essential if plans are to respond to real social needs, and planners must seek to present their conclusions in terms assimilable by political leaders and conducive to popular support and participation;

(*g*) Development planning does not gain in effectiveness through elaboration of regulations and centralized controls. This is particularly true of the social programmes with their needs for flexible responses to local situations. A large share of the responsibility for regional and local programming must be delegated to local administration and local organization in order to relieve the central authorities of tasks they cannot carry out. In Latin America, a good deal of recent discussion has centred on this requisite, but progress toward institutional forms capable of satisfying it has been very limited. In fact, the need cannot be met by institutional changes alone; if the institutions are to function, local social and economic relationships and attitudes must change simultaneously.

C. Educational planning

1. NEED FOR EDUCATIONAL PLANNING

Of all the social sectors, education seems to be the easiest to define and the most suitable for uniform programming. There have been frequent international meetings on educational policy, an International Institute for Educational Planning has been established, the last General Conference of UNESCO decided to set up a Latin American Institute for Educational Planning, and educational authorities have a huge fund of detailed technical information to guide them. In most countries, formal education is in the main the direct responsibility of the State. Inasmuch as the activities of local authorities or private schools supplement or take the place of action by the national authorities, they are largely supported by national public funds, and they operate within the framework of national regulatory legislation. There are statistical standards for measuring the efficiency and productivity of an educational system—proportions of enrolment by age groups; duration of the course; the number of pupils moving up to the next class or repeating a class and drop-out rates; teacher-pupil ratio; etc.—which make it possible to establish a coherent set of standards and objectives that can be easily understood by the public and whose cost can be accurately calculated. Moreover, nearly all the statistics needed for programming exist or should exist in the educational administration, or in the form of current census tabulations.

Considerable progress has been made in analysing educational needs, which presuppose a labour force with specific levels and types of training so that economic planners can make specific demands on the educational system and understand the necessity of assigning to it sufficient funds to ensure the feasibility of their long-term production plans. Through the concepts of "human capital" and "human resources", economists have come to take a particular interest in helping to formulate the principles and techniques of educational programming. Although their attempts to calculate the returns on educational investment in monetary terms or to incorporate educational systems in mathematical input-output models are still far from having proved their usefulness as programming instruments,[9] this is no obstacle to incorporating economic objectives and the principles of economic programming in practical systems of educational programming.

Nevertheless, educational programming has not made much progress in Latin America and has probably made even less in other regions where education has particularly serious deficiencies.

Educational planning is important and necessary for the following reasons, which are particularly cogent in the Latin American countries and which reinforce the motives for general planning:

(*a*) The population explosion: in most countries of the region, because of the persistently high birth rates, which in some cases are even rising, the potential school population is increasing, and will continue to increase, at an accelerated pace. The increase in the minimum demand due to this factor alone cannot be properly absorbed without careful planning;

(*b*) The increasing pressure for democratization and expansion of education: as a result of the declared aim of reducing illiteracy, absenteeism and dropping-out, and the social pressures to achieve these aims, and that of providing access for increasing numbers of students to the secondary and higher levels of formal education, the demand is such that it is quite impossible to satisfy it without previous planning and an adequately rationalized future education policy;

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[9] There has been continual controversy about these matters, and those who promote the most complicated mathematical techniques have been accused of inducing programmers to waste ability and skill on theoretical exercises. Among the best known advocates and critics of these methods are the economists Jan Tinbergen (for) and Thomas Balogh (against).

(*c*) Since all the Latin American countries have assumed explicit commitments to promote development, the growing awareness of the link between development and education is reflected in the need to supply the economy's future demand for skilled personnel, which can be done only by means of complex planning;

(*d*) The need to use human resources as efficiently as possible entails re-educating part of the of the existing labour force and training future manpower if the gap between the Latin American countries and the developed countries is to be bridged;

(*e*) The fairly lengthy process of training or re-education leads to rigidities in educational output which only planning can prevent or reduce;

(*f*) It is becoming increasingly evident that education aims which stem from other than economic considerations—the dignity of the human person and his right to full citizenship—can be effectively attained for more than a minority only if the available resources are used rationally and their future development is planned.

In addition to these reasons for promoting the formulation of educational plans in the Latin American countries, there are others which are not yet properly substantiated. In a development policy, the function of education goes far beyond the traditional targets. Although the population may derive more direct benefit from the expansion of educational services than from a larger volume of production of goods, the extremely unequal distribution of education may continue to accompany or even to intensify, the inequality in the distribution of income and wealth; the opportunities for taking full advantage of the expansion of educational services may still be restricted to certain groups; and the mere availability of more educational opportunities may prove insufficient for broad sectors or may add new grounds for frustration. It may not be out of place to recall that the high drop-out rates extending from the primary to the university level are not determined only by the extent to which educational services are available, nor are they merely an index of inefficient use of the public resources allocated to education; rather they reflect the inability of sizable groups of the population to take full advantage of the services available in their present form. From a different standpoint, the increasing outflow of professionals and technicians to other regions and the constant pressure to increase the number of public employees are signs of a maladjustment between the existing structure of education and the economy's employment absorption capacity.

The inability of certain social groups to make use of educational services is largely attributable to deficiencies in the school system. The groups least prepared for formal education by family socialization are precisely those which receive instruction in the most poorly equipped schools, from the least qualified teachers. There would be no point in expanding education without taking into account the need to remedy these defects, which can be done only through planning. Moreover, even from the quantitative standpoint, if the average number of years of schooling for the less privileged

Table

LATIN AMERICA: SOME EDUCATIONAL TARGETS

Country: (1) Year of establishment of first over-all planning agency[a] *s(2) of present system and (3) of educational planning services; (4) over-all development plan; (5) educational plan*	*Primary education targets*	*Secondary education targets*
Argentina: (1) 1961; (2) January 1964; (3) 1960; (4) National Development Plan, 1965-69	To establish complete primary education for 95% of the school-age population in 1969, compared with 87% in 1962. To improve the educational yield	To increase the enrolment rate of the 13-18 age group from the present rate of 30% to 40%, and shift the emphasis towards technical, agricultural and industrial education
Bolivia: (1) 1953; (2) July 1963; (3) 1963; (4) Economic and Social Development Plan, 1962-71. Two-year economic and social development plans, 1963-64 and 1965-66	To incorporate 100% of the urban children and 80% of the rural children, compared with 79% and 40%, respectively, in 1961, raising the average number of pupils per primary teacher from 26 to 35 in rural areas. To reorganize and divide the school system into pre-primary, basic, prevocational and specialization cycles, each of 2 years' duration	To increase the school attendance rate from 11% to 34% and the average number of pupils per teacher from 18 to 35. Reorganization: 2 years of education and vocational guidance, followed by 2 years of technical training (administration, commerce, agriculture, industry) or a 4-year course in academic subjects
Brazil: (1) 1956; (2) July 1963; (3) 1962; (4) Government Economic Action Programme, 1964-67	To increase enrolment in urban schools by 330,000 and in rural schools by 3,300,000 between 1965 and 1970. To build 4,950 classroom in the towns and 49,650 in the country. To raise number of teachers by 54,600	To increase enrolment between 1965 and 1970 by 700,000 pupils in towns with over 100,000 inhabitants, by 380,000 in those with 5,000-100,000 inhabitants, and by 370,000 in those with under 5,000 inhabitants. It is estimated that 1 school is required for every 500 pupils enrolled in the major cities, 1 for every 300 in medium-sized towns and 1 for every 200 in small towns. Number of teachers: 1 for every 20 pupils enrolled
Chile: (1) 1939; (2) November 1964; (3) 1962; (4) National Development Plan, 1961-70; (5) Educational Programme, 1965-70	Intensive programme: to increase enrolment by 174,000 pupils in 1965, train 5,000 additional teachers and build 6,000 classrooms. The initial aim is 4 years' universal schooling, to be extended to 6 years by 1969. Educational reform: an 8-year basic course, which would eventually be extended to 9 years	To increase the enrolment rate of the 15-19 age groups to 35% by 1970 and to 50% by 1976, compared with the present rate of 26%. Reform: a 3-year humanistic-scientific or technical course

University education targets	*Targets in technical training outside the formal educational system*	*Literacy targets*	*Teacher-training targets*
To increase the enrolment rate of the 19-24 age group to 11% as compared with the present rate of 10%. To improve the educational yield and encourage enrolment in courses of "strategic importance for development"		Intensive National Adult Literacy and Education Campaign	
		Two 5-year literacy campaigns (1962-66 and 1967-71), the first to cover 60,000 persons annually, and the second 80,000. To incorporate literacy courses in a minimum basic education programme	An Inter-American Co-operative Educational Service (SCIDE) programme for the improvement of teaching Establishment of the Higher Institute of Rural Education
To raise the enrolment figures from 16,000 to 45,000 between 1965 and 1970, thus towns with over 50,000 inhabitants would have 1 student for every 100 inhabitants or 1 student enrolled for every 11 inhabitants in the 20-24 age group		To reduce the number of illiterates to 19 million or 26% of the total population, by 1970	
To double the number of graduates in the next 10 years	A national system of apprenticeship to cover 2,000 apprentices in 1966, 4,000 in 1967, and 6,000 in 1968	An intensive adult literacy programme to cover 100,000 adults through the establishment of 2,600 basic and community education centres	A national programme of refresher courses for primary school teachers (8,100 took part in 1965-66)

Table

LATIN AMERICA: SOME EDUCATIONAL TARGETS

Country: (1) Year of establishment of first over-all planning agency[a] *(2) of present system and (3) of educational planning services; (4) over-all development plan; (5) educational plan*	*Primary education targets*	*Secondary education targets*
Colombia: (1) 1951; (2) December 1963; (3) 1957; (4) Over-all Economic and Social Development Plan, 1962-70. Four-Year Public Investment Plan, 1961-64	To build 22,000 new classrooms for 880,000 pupils and thereby reduce the quantitative deficit by 75%. To raise the enrolment figure to 2,440,000 in 1965	To expand the existing services, by raising investment from 8,54 million pesos in 1961 to 20 million in 1964 at 1960 prices
Costa Rica: (1) 1963; (2) January 1963; (3) 1964; (4) National Economic and Social Development Programme, 1965-69	To incorporate 88% of the school-age population by 1968, this entails the construction of 3,150 classrooms for 82,500 children	To incorporate 22% of the 14-19 age group by 1968; this entails the construction of 611 classrooms for 42,600 students
Cuba: (1) 1960; (2) February 1961; (3) 1960; (4) National Economic Plan (annual); (5) Four-Year Educational Plan, 1962-65	To increase enrolment to 92% in 1965. To prohibit children of primary school age from working. To subdivide the primary course into a 4-year and a 2-year cycle	To enable 80% of primary school leavers in 1965 to pursue their basic secondary studies. To subdivide the secondary course into two 3-year cycles
Ecuador: (1) 1954; (2) August 1961; (3) 1960; (4) Over-All Economic and Social Development Plan, 1964-73; (5) Ecuadorian Educational Plan, 1964-73	To increase enrolment from 709,000 pupils in 1963-64 to 1,103,000 in 1973-74, which would raise the rate from 87 to 100%; 12,067 teachers and 207 supervisors will be needed for the purpose. To establish 6 years of compulsory schooling throughout the country, and subdivide the primary course into three 2-year cycles	To establish a 3-year basic cycle, followed by a more specialized cycle to prepare students for the professions, research or the arts. To increase enrolment from 94,300 in 1963-64 to 219,000 in 1973-74, and the number of teachers by 7,800. The total cost would amount to 553 million sucres for current expenditure and 146 million for investment
El Salvador: (1) 1962; (2) April 1962; (3) 1951; (4) Over-All Economic and Social Development Plan, 1965-69; (5) General Educational Plan, 1965-69	To increase the enrolment rate to 90% by 1969, which will entail the construction and equipping of 4,400 classrooms and an increase in the number of teachers from 10,200 to 13,500	To increase enrolment in the basic cycle from 30,800 in 1964 to 55,400 in 1969, in the upper *(bachillerato)* cycle from 4,700 to 10,300, in teacher training from 7,500 to 12,800, and in vocational and technical training to a total of 2,000

19 *(continued)*

EMBODIED IN THE NATIONAL PLANS

University education targets	*Targets in technical training outside the formal educational system*	*Literacy targets*	*Teacher-training targets*
To invest 18.6 million pesos (at 1960 prices) between 1961 and 1964	To expand the activities of the National Apprenticeship Service by means of investments totalling 18.3 million pesos over the four years, covered by the Plan		To enable 11,160 serving primary school teachers to obtain diplomas. To train school supervisors and headteachers
To invest 14.3 million colones in 1965-68			
To attain an enrolment figure of 80,000 by 1970	To establish extension courses for workers, basic technical courses, and schools of agricultural technology	Literacy campaign. The illiteracy rate in 1961 3.9%	Higher Institute of Education
To increase enrolment from 5,100 in 1964-65 to 14,600 in 1973-74 and to train 29,000 professionals during this period. To establish a fellowships programme		Ten-year National Adult Literacy Campaign, consisting of three 9-month cycles: literacy, post-literacy, and adapted primary education	Regular or vacation training courses and seminars
To raise the enrolment capacity from 3,400 students in 1964 to 7,450 in 1969			To increase enrolment in the Higher Teacher Training School from 590 students in 1965 to 1,600 in 1969

Table

LATIN AMERICA: SOME EDUCATIONAL TARGETS

Country: (1) Year of establishment of first over-all planning agency[a] *(2) of present system and (3) of educational planning services; (4) over-all development plan; (5) educational plan*	*Primary education targets*	*Secondary education targets*
Guatemala: (1) 1954; (2) November 1954; (3) 1963; (4) Over-All Economic and Social Development Plan, 1965-69	To incorporate 72% of the school-age population by 1969, compared with 47% in 1964; this means that enrolment will have to be increased by 293,000 pupils and 7,000 classrooms will have to be built	To incorporate 10.9% of the school-age population by 1969 (compared with 7.3% in 1964) through an increase of 22,000 in the enrolment figure and the construction of 430 classrooms
Haiti: (1) 1962; (2) July 1963; (4) Emergency Plan (two-year investment plan)	To build 490 new classrooms in the urban sector and 175 rural schools with 4 classrooms each	To build four new general secondary schools and enlarge or reconstruct four rural schools
Honduras: (1) 1955; (2) February 1955; (3) 1965; (4) National Economic and Social Development Programme, 1965-69	To step up enrolment from 292,400 pupils in 1964 to 363,200 in 1969 and 470,300 in 1974 (the proportion not attending school will drop from 48.7% to 42.5% and 34.1%). 2,900 and 3,600 new classrooms, and 2,600 and 5,500 teachers, respectively, will be required	To increase enrolment from 19,600 pupils in 1965 to 25,400 in 1969 and 37,200 in 1974 (the proportion not attending school will drop from 93.3% to 92.8% and 90.9%). The requirements would be 650 and 1,050 classrooms, and 6,500 and 10,500 teachers in the two years concerned
Mexico: (1) 1958; (2) March 1962; (3) 1959; (4) Short-term plan, 1962-64; (5) Plan for the expansion and improvement of primary education in Mexico (1960-70); Jalisco Plan (1964)	*Eleven-year plan*: to ensure free enrolment for all children. The increase envisaged was 3,300,000. The 1964 enrolment figure was 6,600,000 or 300,000 more than the target envisaged for 1967 under this Plan. Jalisco Plan: to meet the actual demand in 1970 (629,000 enrolments out of a school-age population of 830,000)	
Nicaragua: (1) 1952; (2) February 1952; (3) 1959; (4) Over-All Economic and Social Development Plan, 1965-69; (5) Improvement of the educational situation in Nicaragua; General Plan, 1965-75	To increase enrolment by 120,000 between 1965 and 1969 or from 55% to 72%. To build 2,600 classrooms	To increase the enrolment figure by 5,000 between 1965 and 1969; thus covering 10.3 % of the school-age population, compared with 8.9% in 1965. To build 125 new classrooms
Panama: (1) 1959; (2) June 1959; (3) 1960; (4) Economic and Social Development Programme, 1963-70	To build 3,400 new classrooms between 1963 and 1970 at a cost of 17 million balboas	To build 350 new classrooms between 1963 and 1970 at a cost of 2.1 million balboas

19 *(continued)*

EMBODIED IN THE NATIONAL PLANS

University education targets	*Targets in technical training outside the formal educational system*	*Literacy targets*	*Teacher-training targets*
To raise the initial enrolment figure of 7,100 in 1964 to 9,800 in 1968 and 13,400 in 1972			
	National Apprenticeship Programme: industrial and agricultural training centres	Literacy campaign, launched in 1944 to cover 6,000,000 persons; illiteracy was reduced from 53% of the population aged 6 years and over in 1944 to 36% in 1960 and 28% in 1964	Federal Institute for Training Primary School Teachers. 33,000 teachers without diplomas were trained between 1944 and 1964
To increase enrolment by 4,300 between 1965 and 1969 and raise the number of graduates to 5,000 by 1974			
To enlarge the buildings of the University of Panama at a cost of 4 million balboas	To carry out a training programme for workers (5 million balboas). To establish 28 new agricultural vocational schools and improve those already in		

Table

LATIN AMERICA: SOME EDUCATIONAL TARGETS

Country: (1) Year of establishment of first over-all planning agency[a] *(2) of present system and (3) of educational planning services; (4) over-all development plan; (5) educational plan*	*Primary education targets*	*Secondary education targets*
Paraguay: (1) 1948; (2) September 1962; (3) 1958; (4) Economic and Social Development Plan, 1965-66	To increase enrolment from 349,000 in 1964 to 381,500 in 1966; this would step up the enrolment rate to 86% in 1965, and to 87.5 % in 1966. To raise the school retention rate to 20% in 1966 and 40% in 1970. To supply free meals and textbooks	To increase enrolment from 33,000 pupils in 1964 to 34,000 in 1966. To provide technical training for a total of 450 students in 1965 and 475 in 1966
Peru: (1) 1962; (2) October 1962; (3) 1958; (4) Public Investment Programme, 1964-65 and 1966	To attain a 100% enrolment by 1969, by increasing the number of pupils from 1.8 million in 1964 to 2.3 million in 1969. To increase the number of classrooms from 41,700 in 1964 to 54,000 in 1970	To attain a school enrolment rate of 40% (70% in general secondary schools and 30% in technical schools) thus increasing the number of pupils receiving general secondary education from 235,000 in 1964 to 377,000 in 1969, those receiving technical training from 68,000 to 162,000; and those trained as teachers from 9,800 to 19,000. To increase the number of classrooms used for general secondary education from 3,400 in 1964 to 6,100 in 1970, and those used for technical training from 1,900 to 4,700
Uruguay: (1) 1960; (2) January 1963; (3) 1962; (4) Economic and Social Development Plan, 1965-74; (5) Educational Development Plan, 1965-74	To attain a school enrolment rate of 90.2% by 1974, compared with 87% in 1965; 5,500 teachers will be needed	To incorporate 93.2% of the pupils completing primary school and keep 80% of them up to third grade; 4,070 teachers will be needed
Venezuela: (1) 1958; (2) December 1958; (3) 1959; (4) National Plan, 1965-68	To increase enrolment in pre-primary and primary school from 1.5 million pupils in 1965-66 to 1.8 million in 1968-69. To reduce absenteeism of 7-year-old children in first grade from 25% to 5%, and of all children primary school age from 21% to 10%	To raise the enrolment figure from 292,000 in 1965-66 to 388,000 in 1968-69; to increase the teaching staff from 15,700 to 20,300

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[a] Relates to the original agency that served as a basis for the present system.

19 *(concluded)*

EMBODIED IN THE NATIONAL PLANS

University education targets	*Targets in technical training outside the formal educational system*	*Literacy targets*	*Teacher-training targets*
	existence (565,000 balboas)		
Sustain enrolment figures of 5,560 in 1965 and 5,665 in 1966; to raise the number of graduates from 371 in 1964 to 433 in 1966			
To step up enrolment from 53,400 students in 1964 to 88,000 in 1969. To increase the number of classrooms from 1,000 in 1964 to 1,900 in 1970			
Increase enrolment in the university from 2,000 students in 1965 to 3,200 in 1974	To increase enrolment in the Universidad del Trabajo from 26,500 students in 1965 to 33,500 in 1974		
Increase student enrolment from 46,900 to 69,700, and the number of teachers from 4,900 to 6,700 between 1965-66 and 1968-69	To step up attendance at courses held by the National Institute of Educational Co-operation from 62,200 employed and 16,200 unemployed workers in 1965 to 84,400 and 19,100 respectively, in 1968. To reach a total of 367,000 participants in the four-year period concerned	To reduce illiteracy from 23.6% of the population of over 14 years of age in 1963 to 16% in 1965 and 4% in 1968	

groups were to increase no more rapidly than the educational requirements for potential employment, the process would mean little as an instrument for promoting social mobility. Educational planning, geared to a development policy which is aimed at correcting the regressive distribution of income in Latin America, should take account of the fact that if the increase in the number of years of schooling is accompanied by a still greater increase in the educational background required by employers—as a result, *inter alia*, of the broader possibilities offered by the educational system—it would tend to widen rather than narrow the gap between the privileged and the underprivileged.

Considerations such as these illustrate the magnitude of the task lying ahead of educational planning. As in the strictly economic field, the problem is not merely one of expanding existing facilities and making the present system more rational and efficient, but of foreseeing subsequent changes and presenting a sufficiently clear image of the society it will be called upon to serve in the future.

2. PRINCIPAL EDUCATIONAL PLANNING CHOICES

In response to the above-mentioned requirements, nearly all Ministries of Education have established programming machinery, the number of specialists in educational planning has increased considerably and is still increasing, and many national plans have been formulated (for their main characteristics, see table 19). Such plans relate essentially to education, but in several cases they contain forecasts of future demand for human resources. Despite the differences in the terminology used by the different writers on the subject and the different possible approaches to the study of human resources, it would seem that the two types of planning are conceptually quite distinct, although there is nothing to prevent them both being employed in the same document. Human resources planning is at once broader and more limited than educational planning. In speaking of human resources, man is considered as a factor of production, an imput, and the aim is to make him as efficient and productive as possible. One of the instruments for fulfilling that aim is the provision of a suitable vocational or professional training. Education is not the only instrument available for the purpose, however, since human resources planning covers all the processes for making the best possible use of skilled manpower, and in this sense it is broader than educational planning. In another sense, however, the latter is much broader in scope, since it encompasses a number of objectives over and above purely professional and vocational training. Such training is therefore a common ground for both types of planning when it is imparted through the educational system. It must not be forgotten that this training may also be obtained, and in fact is obtained, by other or supplementary means.

The plans formulated can be analysed not only from the standpoint of their contribution to human resources planning but also in the light of their contribution to the decisions which every educational plan inevitably involves. These would seem to be mainly the following, in logical order rather than in order of importance or priority:[10]

(*a*) The role to be assigned to formal education and to non-formal training;

(*b*) The role of public and private education;

(*c*) The choice between establishing nuclei of growth and promoting an even expansion in all regions;

(*d*) Priorities for the different levels of education;

(*e*) The content of education: the role of the sciences and the humanities;

(*f*) Incentives.

Although most of these decisions and the need for them are self-explanatory, it may be useful to make special reference to some of them. Inasmuch as educational planning is linked to the training of human resources, this may be effected through formal schooling, non-formal training, or varying combinations of the two. These combinations imply different choices on the basis of widely differing criteria. The choice itself is ineluctable, however. In fact, where no explicit or implicit choice is made, resources that would have been better employed in non-formal training are being wasted on formal education.

There is also a wide difference in the diffusion and concentration of employment opportunities between one part of a country and another, between urban and rural areas, etc. The part to be played by local initiative is only one aspect of this huge problem. Whatever the truth of Anderson's remark that "it is more than a figure of speech to say that this nation [the United States] was built on the one-room rural school taught by the barely-literate farmer's daughter",[11] it is a fact that the choice between diffusion on the basis of certain nuclei of educational growth and the effort to spread education evenly through State action should somehow be made. Which levels ought to be expanded and how far, how such expansion should be distributed over the various regions, what role should be assigned to the cities and to rural areas, etc. are decisions inherent in this complex problem, which the educational planner can evade only by choosing the existing situation.

Lastly, it is worth noting that educational planning which implied the establishment of new educational channels and the changing of current priorities would be meaningless unless at the same time decisions were taken on the provision of incentives to create real employment opportunities for those undergoing training, the occupations promoted were given higher status, the remuneration was in proportion to the new importance ascribed to them, etc.

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[10] This enumeration only partly resembles the areas of choice outlined by F. Harbison, "Educational planning and human resource development", in *Fundamentals of Educational Planning*, Series No. 3, (International Institute for Educational Planning, 1967). Although this is not the place to justify the differences between the two formulations, it should be noted that the emphasis here is on the choices which seem most important under present conditions in Latin America.

[11] C. Arnold Anderson, "The impact of the educational system on technological change and modernization", in *Industrialization and Society*, Bert F. Hoselitz and Wilbert E. Moore, eds. (The Hague, UNESCO-Mouton, 1963), p. 271.

3. THE PLANS ALREADY FORMULATED AND HUMAN RESOURCES PLANNING

If the plans hitherto formulated in Latin America are analysed from the standpoint of their correlation with the planning of human resources, certain conclusions may be drawn which, in their turn, indicate certain desirable goals in formulating future plans. The plans of Bolivia, Colombia, Ecuador, El Salvador, Mexico, Uruguay and Venezuela, for example, define certain measures for bringing the supply of education into line with manpower needs, pointing up the need to intensify technical specialization in secondary education, to establish technical education centres and to carry out large-scale adult training campaigns. None of the over-all plans, however—except those of El Salvador and Uruguay—goes further than certain general qualitative guidelines, since they do not include employment projections by sectors and activities or by technical and professional levels; consequently, they fail to determine the manpower needs with which educational planning should be brought into line. Accordingly, there are no criteria for effectively integrating an educational plan with the over-all plans.

The three countries which go into most detail concerning the relationship between employment and education are Venezuela, El Salvador and Uruguay. In Venezuela, explicit consideration of the employment question made it necessary to alter the provisional projections in the plan, and thus to revise the target for the growth of the product and to incorporate supplementary programmes designed to reduce unemployment. The plans of El Salvador and Uruguay also include a fairly broad evaluation of the human potential in relation to proposed economic development targets; this entailed the preparation of projections of the growth of the total population, with its demographic and economic characteristics, and an analysis of employment goals and manpower needs by sectors and professional levels.

In the few cases where educational plans are effectively integrated with over-all development plans, they constitute a breakdown and amplification of the relevant section in the over-all plan, and include a detailed diagnosis of the educational situation and fully substantiated arguments for the policy proposed. In other cases, they represent a completely independent effort, which cannot but limit their scope to internal aspects of the educational system and to the justification of particular appropriations, with no assurance that the plans will be consistent with other basic definitions of development policy or that the proposed objectives are really feasible.

4. EXISTING PLANS AND BASIC CHOICES

Some special considerations seem pertinent from the standpoint of the ineluctable decisions referred to above.

As regards the role of formal and non-formal education, some plans make no mention or contain no programmes of training outside the formal school system. Others include non-formal technical professional or vocational training programmes, but at different levels of proficiency. In general, all plans are focused on education in the traditional sense, and even those concerned with non-formal training do not say very clearly what is expected of it, except in a few unrelated areas. There has not been a broad or explicit discussion of the various possible choices or of the different combinations on the basis of which educational policy regarding non-formal instruction could be determined, which has led to acceptance of the existing situation with little or no change, without knowing exactly why.

The choices with regard to the role of public and private education referred to here exclude financing, which is dealt with in chapter VII. Plans usually contain precise data on certain problems, such as the present proportions of enrolment in public and private institutions and their future projections, which are normally based on the growth trends observed in the last few years. In some cases, the programming of private education is overlooked and the plan relates only to public education; in others, the goals established for private education amount to simple projections of the part to be played in the education system by the private institutions rather than programming. Since those projections are prepared on the bases mentioned above, no particular decisions are adopted regarding desirable changes in the participation of one sector or the other. In a very few cases —Uruguay, for example—in order to explain the growth of private education, the plan highlights the deficiencies of the public school system in relation to new educational demand, and in proposing certain remedies for those deficiencies it implies that the public sector should regain part of the ground it has lost. Even then, however, no decision is taken regarding the policy governing the distribution of education between the two sectors, nor are goals expressly established for the purpose. In the last analysis, in one way or another, if the policy to be pursued in the matter is not expressly discussed or the pertinent decisions adopted, the *status quo* will be maintained, either because it is considered desirable or because there is no wish to discuss whether or not it actually is so.

The same is true of the decisions on regional programming, the concentration on certain nuclei or a more or less indiscriminate expansion, etc. None of the plans contains a full and systematic analysis of the question or of its connexion with general development. On the other hand, they include piecemeal considerations on the situation in certain regions, on variations in illiteracy, absenteeism and drop-out rates in some of them, on the need to expand secondary education, etc. They also include rural education programmes and plans for making primary education compulsory for the whole population. Although some of the changes proposed are important, what is lacking is a complete review of the whole problem. In fact, what is needed is to determine the instruments that would enable the rural groups to emerge from their present unsatisfactory state with regard to education and to gain access not only to primary schooling but also, in reasonable proportions, to other levels and media that would really imply social mobility. Nor do the plans provide any justification for maintaining certain privileged nuclei as bases for the future, if that is really what is desired.

Although all the plans deal with the various levels of education, none contains any real educational plan for the university. The measures proposed for the different levels are indicated below.

(a) *Primary education*

Plans tend to focus attention on two basic problems of primary education in Latin America: absenteeism and dropping-out.

Concern over absenteeism is reflected in the proposed increases in enrolment which, in the comparatively near future, would absorb the whole urban school-age population and a varying but fairly high proportion of the rural population as well. These targets lead in most plans to projections of current expenditure throughs the application of a teacher-pupil ratio. Capital expenditure is usually calculated on the basis of surveyors' reports on the state of school buildings, while additional needs are estimated in accordance with the total of new enrolments and their distribution for a summary of these targets envisaged in the various plans (see table 19).

Besides the increase in enrolment, a parallel target is a decrease in the school drop-out rate as a means of improving the efficiency of the system. In this respect, the plans envisage the allocation of additional resources in order to increase the capacity of the school system; in some cases, the number of years of compulsory education are also increased. Thus Uruguay has added three years to the secondary school cycle, and Chile has established an eight-year primary school cycle. In general, no express consideration is given to other causes of dropping-out and no supplementary measures are laid down.

A point on which particular stress is laid in the plans is the training of teachers, and in some cases (Bolivia, Chile, Colombia, Cuba, Ecuador, El Salvador and Mexico) they contain proposals for intensifying teacher-training and for launching campaigns to train unqualified primary teachers. Other plans provide for the intensive training of specialists in the training of primary school teachers, by means of parallel efforts by the universities and advanced teacher-training colleges.

Illiteracy is dealt with in the plans independently of primary education, in the form of literacy campaigns for those not included in the school system.

(b) *Secondary education*

Among the major problems affecting secondary education, several of the Latin American plans single out the system's inefficiency and lack of capacity, the inadequacy of technical education and the concentration of resources in the traditional pre-university branches of study. The discrepancy between the number of primary school leavers and probable enrolment capacity is taken as a basis for estimating new requirements in respect of school premises and teaching staff. In some instances, the plans do not stop short at defining the requisite quantitative expansion but lay down general principles of reform designed to bring the system more into line with economic development needs. These guidelines, however, seldom go beyond the idea of division into cycles and the possibility of linkage at different levels between general education and technical specialities.

(c) *University education*

Most of the plans underline the universities' marked incapacity to absorb the growing numbers of secondary school leavers and the difficulties of solving the problem over the short or medium term, because of the requirements entailed not only in the shape of larger allocations of funds but also in respect of highly-qualified teaching staff. The policy sketched out ranges from drastically selective restriction of the number of students enrolled in each university discipline to the adoption of broader admission criteria, which results in overcrowding during the first year or two and a low percentage of graduates in relation to enrolment. To improve the efficacy of the system by reducing drop-out and speeding up the study process, several plans recommend the introduction of systems of scholarships whereby students can be freed from the necessity of undertaking gainful employment while they are still at the university.

The concern displayed in some plans on account of the current predominance of the liberal professions in university enrolment and the consequent under-enrolment in disciplines more directly linked to economic development requirements does not usually find expression in practical and co-ordinated proposals for remedying the situation. In some cases, mention is also made of the lack of co-ordination among the various universities and between them and the rest of the educational system.

Priorities at the various levels are not established at all or are merely implicit in the plans. It is obvious that to do everything at once and at all levels is impossible, and equally obvious that conditions in each country may necessitate giving some levels priority over others, at least for a time; but a whole series of factors, which will be discussed later, militate against an exhaustive analysis of the existing situation and an explicit definition of future targets.

Most of the plans say nothing of the qualitative aspects of the educational system, and therefore do not shed much light on the part to be played by scientific and technical training in general education or on the content of general education itself. Such references as are made to the problem are mainly marginal; the plans allude to the importance of expanding scientific and technical courses and giving priority to the sciences in general study programmes, they fail to specify how far this is to be done, or by what actual means it is proposed to remedy the existing shortages of qualified teaching staff or of the requisite facilities. In this connexion, although one of the most vital of the qualitative aspects of the problem is involved, programming is shelved in favour of the formulation of a few lines of policy and the expression of pious hopes. This is patently not enough, in view of all that the question signifies for Latin America.

Lastly, educational plans in themselves, or the development plans in which they are incorporated, make little or no provision for a system of incentives. They generally advocate changes in the degree of importance assigned to particular professions in the light of human resources requirements for development purposes, but they do not say what incentives are to be applied in order to make this process really operative.

When Governments genuinely set out to direct the expansion of educational systems towards the attainment of certain specific development objectives, as regards the supply of skilled manpower and professionals, they assume a serious responsibility: that of ensuring that the new skills are absorbed by real demand and that their remuneration bears a suitable relationship to earnings in lower-priority occupations. The greater the extent to which the task of imparting specialized instruction at the secondary level is entrusted to the schools rather than to non-formal training media, the heavier this responsibility becomes.

The proliferation—usually uncontrolled—of vocational courses for which fees are paid suggests that when the users of educational services (in particular those coming from the lower middle classes or the upper strata of the lower income groups) see real opportunities of obtaining occupations that they regard as desirable, they create a demand for vocational education which seems to them consonant with the opportunities in question. If they fulfil this purpose, it does not much matter whether the vocational courses concerned are inefficient from other standpoints.

The foregoing considerations reveal the risks attendant upon educational reforms relating to the expansion of specialized training when they outstrip the creation of real employment opportunities and the revision of salary scales.

These difficulties become more acute in the area of agrarian reform and rural development. The Latin American Governments have committed themselves to undertaking radical changes in rural structures which call for a rapid improvement in the general educational level of this sector of the population and a vast expansion of many types of specialized education relating to agriculture. So far, however, the progress actually achieved in respect of agrarian reform is very limited, and the opposition put up is so strong that it is not possible to take an over-optimistic view of future prospects in most of the countries. Can the educational planner assume that agrarian policy will succeed in translating the projected requirements in the field of agricultural and rural education into terms of real demand? To raise the present levels of education seems an inescapable obligation, but actual trends in the rural sector, rather than plans, will determine real demand for agricultural specialists. If the training of such specialists is unaccompanied by agrarian reform, they will find themselves unemployed, or new bureacratic empires will be built up.

5. LIMITATIONS OF EDUCATIONAL PLANS AS INSTRUMENTS OF CHANGE

If the plans are analysed either from the standpoint of their contribution to human resources programming or from the angle of educational planning itself, a number of limitations come to light which should be carefully considered, since each represents yet another stumbling-block to future plans or to attempts at supplementing those already in existence.

With respect to the basic problems of educational policy, most of the plans are characterized by failure to consider them at all, by the implicit adoption of certain criteria or by an almost uncritical acceptance of the *status quo*. In these circumstances, the dynamic function the plans might fulfil if applied would probably leave much to be desired, especially as regards the satisfaction of development needs in Latin America.

The causes of this state of affairs are as important as they are diverse, since they largely condition the future prospects for educational planning in Latin America. The following are the major factors concerned:

(*a*) In almost all countries the public educational services at the primary and secondary levels are run by separate administrative authorities, despite the fact that both are apparently under the control of the same Ministry of Education; higher education enjoys a jealously-guarded although in many respects fictitious autonomy; vocational education has its own administrative system, inside or outside the Ministry of Education. Private education is usually in a good position to defend its own interests. Within each of these different administrative divisions there are many groups formed by teaching staff and specialized supporting services, each of which endeavours to safeguard or improve its position and its share in the national budget. The existing rigidity is buttressed by elaborately detailed laws and regulations which can easily be amplified by the educational authorities but can be reformed and simplified only with great difficulty. Meanwhile, the difficulties of over-all programming for the education sector, in conjunction with unco-ordinated international projects, foster the proliferation of programmes whose object is to concentrate funds for special purposes, such as, for instance, literacy compaigns. However justifiable such undertakings may be as promotional measures, they can hardly contribute to the establishment of an orderly system of priorities for the sector as a whole;

(*b*) The official educational objectives emanate from two major sources: the principle of human rights, and the concept of prerequisites for the development of human resources. These two approaches imply somewhat different priorities in the development of the educational system, but they are essentially compatible, and indeed mutually self-supporting.

Nevertheless, as shown in chapter III, these professed objectives clash with the stratification that is typical of Latin American societies. Their pursuit would conduce to unified educational systems offering equal opportunities for promotion from one level to another. The social structure, with its tendency to allot each individual an "ascribed" status both in respect of education and in other fields, makes for an educational system divided up into closed compartments. Under such a system, some of the compartments afford children a good chance of reaching the higher steps of the educational ladder, whereas others shut them off from any possibility of climbing beyond the elementary level. Probably, too, the training given and the attitudes inculcated in the various compartments differ considerably from those envisaged by planners who see education as an instrument of economic development and social mobility.

Broadly speaking, the educational systems of Latin America are at present passing through a stage of transition between the structures corresponding to societies based respectively on ascribed and achieved statuses, and are subject to conflicting pressures which reflect the aspirations of different population strata and the differences in their capacity to press their educational claims to good effect;

(*c*) These circumstances do much to aggravate the incompatibility between the publicly-professed aims of education and the real objectives pursued—consciously or unconsciously—by the clientele of the educational system, i.e., the families from which the pupils come and, at the secondary and higher levels, the students themselves;

(*d*) Perhaps a deeper-rooted cause of the phenomenon under discussion lies in the fact that the compromises between differing demands and aims which are characteristic of social policy in most of the Latin American countries have a peculiarly circumscribing effect upon educational planning. If so many fundamental questions are passed over in silence, if so many decisions of vital importance for educational policy are shirked, if, in the last analysis, the tendency in the main is to accept the *status quo*, the reason is that to propound other policies or merely to discuss those already existing would arouse opposition that would jeopardize the hoped-for application and the efficacy of the education plan. Thus the plans aim at improving existing conditions within the established frameworks, without debating the soundness of those frameworks themselves, although in all probability they constitute basic obstacles to development. This conservative approach is largely attributable to the lack of political, institutional or group backing for efforts to improve upon the bases of the established compromise, even to the extent that a superficial analysis of the situation might lead the observer to expect. At a first glance, since all the social groups set as high a value on education as is indicated elsewhere in the present study, it would seem an easy matter to secure the much-talked-of popular participation and the effective intervention of the private sector in educational planning and in the establishment of educational objectives and targets, and thus to ensure that the plan will really be implemented; but things are very different in actual fact. Measures in favour of the sectors that are almost or entirely excluded from the educational system will obtain no more support than the lip-service of groups which are sure of access to education under conditions that they consider relatively satisfactory, or of those that have no difficulty whatever in this respect. The worse the present circumstances of the potential beneficiaries, the less their capacity for pressure will be, since their position vis-à-vis the educational system is only one indicator of the state of social marginality in which they live. Furthermore, as the groups already enjoying access to education would like to have even greater access to it, they and all the rest will oppose any policy calculated to restrict the expansion of the educational system, but will not go so far as to support other measures. A typical case in point is that of the trade unions. Wherever they have any influence, as they do in many countries, they are concerned to ensure that the State guarantees their children a possibility of steadily-increasing participation in the educational system. Once this has been secured, neither their concern nor their influence extends to the content and bias of the education to be provided, or even to the value systems that are to be transmitted. Assured access to education appears to be enough to satisfy them, even if it is accompanied by a socialization process that removes their children to the sphere of middle-class values and tasks. (In fact, this is probably what they want.) In addition, the structure of the trade union organizations is not such as to enable them to intervene in the discussion of an educational plan or give it effective support. It is a common occurrence in the Latin American countries for the authorities to approve educational reforms which are recognized as radical. Nevertheless, as long as they have nothing to do with the possibilities of access to the educational system, there will be no public discussion of their content and of their significance for the various social groups in which the trade unions can express an opinion based on proper advice from experts whose services they themselves have engaged. In the case of educational plans, the difficulty of obtaining support from the private sector derives not so much from lack of efforts to establish proper communication as from the absence of institutionalized images of the function of education, and the want of a structure on which communication at that level can be based;

(*e*) Hence, the fate of educational plans is in the hands of the teachers and the educational bureaucracy. They are unlikely to support radical changes, for it is hard to imagine any radical changes that could be brought about without seriously affecting their share in the distribution of power. Thus the social indecision characteristic of Latin American societies is reflected in political indecision which cannot but affect educational plans and considerably lessen their prospects of becoming really dynamic factors.

6. THE LATENT FUNCTIONS OF EDUCATIONAL PLANS

In analysing the limitations of educational planning on the lines followed here, the main point to determine is the scope of its manifest functions. It may possibly be found that the latent functions go a good deal further. In order to formulate an educational plan, a rational and objective study must first be made of the existing educational systems, the real problems they pose, the stages of development they have reached, etc. Many ideas previously put forward will turn out to be untenable while many others will be reaffirmed because there is a clearer perception of the real nature of the system. In this sense, it can be claimed without exaggeration that plan formulation marks the transition from the stage of ideological thinking about education to a more critical and scientific approach. In fact, it has a highly constructive contribution to make, whose future effects should not be disregarded. Even if discussions on a plan and its objectives are subject to the limitations already discussed, they at least have the merit of bringing the plans to light and of creating a general awareness that education is not the preserve of teachers alone, since the measures taken in that field affect all social groups and everyone should have something to say about them. The lack of channels for communication may be brought home to people by the efforts made to establish communication if the planners state the problems and at the same time make it clear to the different groups what the manifest and latent consequences may be for them and demonstrate their need of advisers who are able to establish communication at the required level. This is perhaps why the absence of a clear statement of the major options and decisions on which every plan should be based has even more serious consequences for the latent than for the manifest functions of planning.

7. OBJECTIVES OF EDUCATIONAL PLANNING IN LATIN AMERICA

The defects of the educational system are only partly attributable to errors of planning and administration, since the incompatibility between real universal education and existing power relationships, incomes and occupations seems to be a built-in weakness of the system. At the present time, education as the "resultant" of opposing aims and pressures both contributes to and derives from (*a*) the growth of the urban middle strata which, not having yet a clear idea of how they can contribute to development, incline towards occupations that have already reached saturation point in Latin America and (*b*) the maintenance on the margin of society of much broader population strata that are unable to benefit from economic growth or take full part in framing policies for economic and social change.

Hence, laws, plans and public statements on goals and targets in education will be effective only inasmuch as they correspond to a felt need in all sectors of the population. In turn, the replacement of the demands now made on the educational system by others will entail a keener national awareness not only of the need for development but of its prerequisites in terms of a planned process of social change. It will also be necessary to develop a stronger and more diversified network of organizations, such as rural and urban trade unions, elected municipal governments, neighbours' associations, women's clubs and youth clubs, through which all sectors of the population can help to frame and implement plans for education and general development. This does not mean that educational reform should wait upon the right conditions, since the educational system should play a leading role in spurring on reform. Moreover, one of the surest means of taking a more active part in the drive for development is to participate in the fight for more effective education. Some cases have been quoted in which this process can already be seen to be at work, with rural groups attempting to obtain and supervise their own schools,—and university students taking the initiative in working with rural communities and urban marginal settlements. It is essential that the measures taken at the top and bottom levels should be combined into a complete system that may not pretend to perfect harmony or great structural strength but that can operate with reasonable consistency and flexibility.

The functions that should be undertaken by this kind of formal educational system in the context of organized social change can be summed up as follows:

(*a*) To act as an instrument of social cohesion. This does not mean that the educational system should disregard the conflicts of interests that are latent or manifest in present-day society. It must inculcate certain common values and development aims with which such interests should be linked up, and should also give young people the intellectual tools for a clear understanding of the contradictory appeals to which they are exposed and encourage them to settle conflict situations through negotiation within the framework of the State;

(*b*) To act as an instrument for selection and social mobility. It should be noted that not all types of upward mobility make for constructive social change. When members of the working class and marginal groups gain the middle rungs of the ladder, the result may simply be, as pointed out before, to deprive the groups from which they came of the educated leaders they so badly need and to increase the supply of manpower in certain professions. The objectives aimed at should therefore be the progress of the most capable towards positions of leadership, entrepreneurial activities, cultural achievements and technical specialization, and the ascent of large groups that emerge from their marginal obscurity to take an active part in national life. In furthering these objectives, it is necessary to reconcile general education that is uniform and universal with the adaptations and supplementary services required to make it really accessible to the marginal population in urban and rural areas. Unless they are given special assistance, the ideal of the same education for all will continue to be meaningless, and a modified system of education that pays no heed to the maintenance of levels and opportunities will merely aggravate the marginal and inferior position of these groups;

(*c*) To act as a means of access to the process of political decision-making and to participation in the wide variety of public roles that exist in a modern society. While helping to train broader population groups to take part in public affairs and to form their own cadres of leaders, the educational system should also help young people in the upper and middle classes to accept the participation of the other groups and the emergence of new *élites*;

(*d*) To act as an instrument for income redistribution. It is generally acknowledged that the inequitable distribution of personal income in most of the Latin American countries, the pattern of expenditure in the propertied classes and the extremely low income level of the majority of the people are impediments to development, but that a simple equalization of income would be neither possible nor desirable.[12] Accordingly, the ends pursued by development policy in the different countries include income redistribution, through the social services, of whatever proportion of income the public sector can obtain by taxing the higher income-groups more effectively. This policy is of special interest for education, because the equalization of educational opportunities would help to bring earning capacities into line with each other. Up to now, however, the distribution of educational services has mirrored and reinforced the inequitable distribution of income instead of rectifying it. It was pointed out earlier that a genuine redistribution of educational opportunities extending to the marginal strata would be both demanding and costly, and that the efforts made to bring this about should be combined with the organized demands of the groups that would benefit most from redistribution;

(*e*) To act as a gateway to the world of employment and as a supplier of the skilled labour needed by developing societies. Because of the part it plays in enhancing the capabilities of "human resources", the division of responsibility between the educational system and employers should be reconsidered. Experience has shown that schools are inefficient as direct suppliers of skilled labour, and cannot guarantee their graduates appropriate employment, even though certain special skills may be in demand. At the secondary level in particular, which poses the stiffest challenge to education in Latin America, new solutions are already being sought for opening up the universities, providing more vocational training and generally preparing young people to enter the adult world. It might be argued that it is more important to change current preferences for certain positions and occupations, impart a working knowledge of basic technical principles, replace passivity by a spirit of initiative and persuade more population groups to work actively for development than to provide a training in specific skills, even if they are needed for certain narrowly-defined economic objectives. In any event, it seems unlikely that the educational system will be able to meet all the demands for different grades and types of skills that will be made upon it in the near future. Planners should also determine how far development objectives in terms of the technological levels of industry, agriculture, construction, etc., should be modified so as to bring them into line with the kind of labour force that will exist in the future, to judge by certain realistic assumptions concerning the future development of the different educational systems.

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[12] *The economic development of Latin America in the post-war period* (United Nations publication, Sales No. 64.II.G.6), part II, pp. 49-82, and "'Social development' and "social planning': a survey of conceptual and practical problems in the setting of Latin America", op. cit.

Chapter VII

THE FINANCING OF EDUCATION AND HUMAN RESOURCES TRAINING IN LATIN AMERICA

The object of the present chapter is not to make a systematic analysis of the subjects normally associated with discussion of the problem of financing for education: the amount of resources currently allocated, the distribution of financing by type and purpose of expenditure, the efficiency with which funds are applied, the scale of future requirements and the additional resources that must be mobilized.[1]

Of the several arguments that may be adduced in favour of a different angle of approach to the problem, only two of a highly practical nature need be cited. In the first place, paradoxical as it may appear in view of the importance of the end pursued and the magnitude of the financial resources involved, the data available in Latin America afford but a shaky factual groundwork for consideration of all aspects of the topic. Secondly, even if the requisite data were obtainable, it is doubtful whether the conclusions to be derived from such an analysis would be viable in so far as they were based on the traditional guiding principles, organizations and operational patterns of the region's educational system.

Accordingly, although some numerical data of a mainly hypothetical character will be used for illustrative purposes, it would seem preferable to set forth a few ideas resulting from an effort to situate the subject of financing for education in the context of Latin America's broader economic and social development problems, and to suggest questions that may usefully be examined in the technical discussion of a matter that will undoubtedly come to the fore whenever Latin America's policy is defined in the future. A special effort of the imagination will then be needed to devise the most effective ways and means of smoothing out the incompatibilities between legitimate aspirations and the stringent limitations of the resources that can be mobilized to fulfil them.

1. NATURE AND SCOPE OF THE PROBLEMS RELATING TO THE FINANCING OF EDUCATION IN LATIN AMERICA

When the question of the financing of education and vocational training in Latin America is raised, attention is often concentrated on the inadequacy of the resources earmarked for these purposes and the need to increase the allocations concerned so that educational services can be extended to broader sectors of the populations.

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[1] This chapter is a revised version of a document presented by ECLA to the Regional Technical Assistance Seminar on Investment in Education in Latin America, organized by UNESCO (Santiago, Chile, 5-13 December, 1966). While some material has been introduced from other Seminar documents, the reader is referred to them, particularly to "The financing of education in Latin America" (UNESCO/SS/Ed.INV/7) for a full discussion of these topics.

With all due deference to the validity of this line of thought, it is easy to see that satisfactory solutions will not be forthcoming unless so narrow an angle of approach is broadened sufficiently to afford a more over-all and objective picture of the wide range of factors which play a direct or indirect part in shaping the problem. As in every other question bearing on levels of living and social conditions, the matter goes far beyond the legitimate and universal desire to seek solutions that are ideal in both quantitative and qualitative terms, the willingness to allocate whatever volume of resources may be necessary, and even the readiness to introduce such operational reforms as will be conducive to a high degree of internal efficiency in the educational system. As Benjamin Higgins puts it:

> "What is important, however, is to recognize that there is no such thing as a problem of financing education as such. If education used no scarce factors of production and if there were no concern about inflation there would be no reason not to give the Minister of Education all the money he asks for. Financing education is a meaningful problem only as an integral part of the whole process of preparing development plans and programmes and providing an over-all budget to finance them. It is *not* a matter of deciding what the educational programme should be and then finding the money. Deciding on the educational programme (as part of the over-all development programme) and making a budgetary allocation for education (within the budget) must be part of the same operation." [2]

In other words, the financing of education in Latin America must be viewed in the context of the over-all development situation. This leads inevitably to the definition of the problem as a structural phenomenon, inherent in under-development and further aggravated by conjunctural and operational factors.

The first basic obstacle derives from the difficulty of reconciling the imperative need to extend effective educational services to new population sectors and with the scantiness of the investment resources available in general, and in particular for educational purposes. However high the priority assigned to education, funds cannot be earmarked for it without due regard to the levels of economic development concerned; educational targets must be appropriate to the stage of development reached, and must be evaluated in the light of other objectives which have every right to compete for the allocations of resources that are limited from the outset. The characteristic inadequacy of public sector budgets for education and human resources training is simply one more manifestation of the general lack of funds peculiar to under-developed countries, and is therefore part of a comprehensive structural situation for which low levels of production and income, together with other key aspects of development, are responsible. The same financial shortages that affect educational budgets make themselves felt in other fields, such as industrialization, agricultural production, generation of energy, transport, and the living conditions of the population in general; and if the resulting levels of education are unsatisfactory, so also are the over-all standards of nutrition, public health, housing and municipal and social security services.

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[2] Professor B. Higgins "Investment in education in Latin America" (UNESCO/SS/Ed.Inv.6.A), p. 9. Paper submitted to the Regional Technical Assistance Seminar on Investment in Education (see footnote 1 to this chapter).

From another standpoint, the priority assigned to public expenditure on education must be compatible not only with other alternative budget allocations but also with the capacity of the population to "purchase" educational services and make effective use of them, assessed in the light of the level and distributions of national and family income. These latter must be compared both with the direct costs of educational services and with the indirect costs represented by the maintenance of the school-age populations and the renunciation of immediate gainful-employment opportunities. The chronic inability of a majority of Latin American households to afford these costs accounts for the failure of a large proportion of the school-age population to take full advantage even of the limited educational services at their disposal—a state of affairs which is reflected, *inter alia*, in the high percentage of dropping-out at all levels that characterizes the operation of the Latin American educational systems.

Thus the real cost of education is much higher than the amount represented by specific budget allocations. Moreover, in so far as the aim in view is to strengthen the role of education as a factor making for social and economic mobility, by opening up real educational opportunities to the lower income strata, an increasing proportion of the indirect cost referred to above will gradually have to be transformed into direct costs borne by the educational services (through the provision of more scholarships, and other forms of assistance).

Accordingly, the requirements deriving from the quantitative expansion of educational services are augmented by other needs whose incidence on the direct costs of the services in question will inevitably grow heavier. Yet a third factor must be added; the expansion in question involves not only an increase in the population served, but also constant changes in the relative importance of the various levels of education, at which costs per pupil differ. A more rapid rise in enrolment figures at the secondary level (where costs per pupil are probably equivalent to four times the average primary-level figure) and also in higher education (where the same costs ratio may reach 1:10) will carry financial implications that will increase at rates much higher than the growth rate of the total school-age population.

These factors intensify the above-mentioned basic incompability between the need for a progressively expanding educational structure and the scantiness of the resources available for its maintenance. Hence very careful consideration must be given to the yield obtained from those resources, to the rationality of the educational system and to the efficiency with which it operates. But these again are questions beyond the scope of a "sectoralized" analysis of the problem.

The first area of concern in this connexion is the extent to which educational systems are adjusted to development conditions and requirements and the degree to which their guiding principles, organization and operational patterns may be merely transplanted from developed countries rather than genuinely adapted to Latin American conditions. One of the most important and difficult tasks deriving from the need for this adaptation is to determine the most appropriate relationship—in Latin America's present circumstances—between the general education and culture for the individual and the community, and the equipment of the labour force with the skills needed to meet economic development requirements. As has been suggested in earlier chapters, there does not seem to be a proper balance in the existing educational systems in this respect, or between the various branches of training for the labour force.

However much is done to improve the operation of educational systems, their real level of efficiency will continue to be low unless a considerable measure of success is achieved in adapting them to the regions's special needs and conditions. This would seem to justify a very broad concept of the "performance" of the educational services, taking into consideration, as a pre-eminent criterion, the measure in which the education provided is compatible with over-all development levels and consistent with vocational training requirements, besides the adequacy of the training in question to meet development needs. Similarly, it is worth while to reiterate that "performance" in the widest sense of the term is also a function of the extent to which the educational services are adapted to the population's capacity to make effective use of them; and this involves, *inter alia*, recognition of the potent influence exerted by the educand's low levels of living as an "out-of-school" determinant of the efficacy of the educational system.

It is this broader view that must be taken in order to evaluate the significance of factors directly relating to the efficiency with which resources allocated to education are utilized: bias and content of curricula, teaching processes and methods, textbooks and teaching material, staffing, premises and facilities, techniques and equipment, economies of scale, and administration of educational services.

Unquestionably, there is a pressing need to reduce the high cost of existing educational services, imputable to the low productivity of the resources invested, for which similarly low levels of operational efficiency are responsible. But it must also be admitted that certain extra costs are superadded which derive from failure to bring the educational services sufficiently into line with development conditions and requirements, and from the existence of other institutional factors. The discrepancies between real supply and real demand in respect of educational services, together with the role played by education, through the history of many countries of the region, as an instrument linked to social and political structures, have had adverse effects of various kinds on educational costs. In some cases, education has become, in practice, an expensive service constituting a source of private profit; in others, it has been turned into a bureaucratic public activity, with low standards of quality and performance; and in many instances, duplication of educational efforts by the public and private sectors has been institutionalized, with the result that the scanty resources available are dissipated and the quality and guiding principles of the educational services lack uniformity.

To sum up, the problem of the financing of education in Latin America seems to hinge upon several considerations:

(*a*) In order to accelerate the rate of development, and even to maintain existing trends, the Latin American countries need to expand and maintain a costly structure of education and vocational training, a requirement which implies increasing mobilization of financial resources;

(*b*) It is doubtful whether enough funds can be allocated to fulfil aspirations in respect of the quantitative expansion of educational services, unless at the same time a major effort is made to improve the productivity of the educational systems;

(*c*) A high proportion of the extra costs and low economic productivity that help to aggravate the difficulty of financing educational services derives from the inadequate adaptation of these services to development conditions and requirements in each of the individual countries concerned;

(*d*) To the factors affecting "performance" in the broadest sense of the term must be added the low levels of organizational efficiency, which are reflected in inefficient utilization of the human, financial and technical resources allocated to education.

2. VOLUME OF RESOURCES REQUIRED FOR EDUCATION

The foregoing conclusions can be better substantiated if the problem is considered in quantitative terms, with the help of a few estimates that will be useful for illustrative purposes, although they are necessarily of a mainly hypothetical character.[3]

At the present time, the total funds allocated to education probably exceed 3,000 million dollars *per annum*, including current expenditure on education proper and on welfare services, investment, and other outlays on research and extension work, covering university, secondary and primary education, and also out-of-school and other non-formal educational activities. The aggregate sum involved represents a little over 3.5 per cent of Latin

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[3] Despite the attention that is being devoted to the expansion of educational services and the allocation of the corresponding funds, the information available on the real costs of education in Latin America is scarce and fragmentary, and in many cases not very reliable. Data on current expenditure are often taken from central government budgets, which means that the amounts concerned are underestimated to an extent proportional to the share of departamental, provincial or local authorities in the provision of educational services; the financing of private education, except in so far as it represents transfers from the central government, is not always included; and data on the resources mobilized for out-of-school or informal educational activities are hard to come by. Moreover, a very high level of aggregation is usually adopted, with no breakdown by types of expenditure; the levels differentiated are usually confined to primary, secondary and higher education, no distinction being drawn within these, between various types of education; and data usually relate to total enrolment, so that it is very difficult to evaluate costs per school-leaver or graduate. More serious still is the lack of information on the amount and composition of investment outlays.

America's gross domestic product; this is one of the largest proportions earmarked for a specific purpose.[4]

About 90 per cent of the total corresponds to current expenditure on education and student welfare; within the former, the major item is the remuneration of teaching and administrative staff, and the latter probably does not account for more than 5 per cent of total current expenditure. The investment figure is a rough calculation based on incomplete data, which in all probability underestimates the real magnitude of the effort that is being made in this connexion (see table 20).[5]

Table 20

LATIN AMERICA: ESTIMATE OF RESOURCES ALLOCATED TO EDUCATION, 1965
(Millions of dollars at 1960 prices)

	Total	*Current expenditure*	*Investment*	*Other expenditure*
University education	*650*	*560*	*30*	*60*
Secondary education	*930*	*890*	*30*	*10*
General		510		
Vocational		260		
Training of primary-school teachers		120		
Primary education	*1,520*	*1,380*	*120*	*20*
Out-of-school and informal educational activities	*100*			
TOTAL	3,200	2,830	180	90

The same applies to the figure for "other expenditure", whose main components would seem to be the funds allocated to university research work and extension services; to extension services, experimental farms, etc., at the secondary level; and, at the primary level, to literacy campaigns and continuing adult education. According to the same estimates primary schooling apparently absorbs a little under half the total resources allocated to education; approximately 30 per cent corresponds to the secondary level, of which in turn about 60 per cent is spent on general secondary education, less than 30 per cent on vocational education and about 14 per cent on the training of primary school teachers. A little over one fifth of total current expenditure and investment outlays is earmarked for university education. The figure given for expenditure on non-formal educational activities is intended more as a reminder of the existence of the item than as even a rough estimate, in view of the almost total lack of reliable data in this connexion.

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[4] The various pertinent estimates usually display very marked differences, apart from the fact that the situation varies considerably from one Latin American country to another. For example, "The financing of education in Latin America", op. cit., records the following percentage relationships between expenditure en education and gross product in 1965: Argentina, 2.77; Brazil, 2.48; Costa Rica, 5.2; Chile, 3.7; Ecuador, 2.76; Honduras, 2.4; Mexico, 2.9; Peru, 5.7; Venezuela, 4.7.

[5] The chief component of investment is the construction of primary school buildings. If educational services at the primary level were to expand at an annual rate of 5 per cent in Latin America as a whole, accomodation for 1.5 million additional school places would have to be built yearly; this effort, related to the estimate under discussion, would imply an investment of 80 dollars per school place — a much smaller sum than, for example, that of 300 dollars per pupil at which the cost of constructing primary school buildings in Ireland is estimated.

With due allowance for the largely hypothetical nature of the figure in question, it is enlightening to relate the estimates of current expenditure to enrolment numbers at the levels concerned. The results of this comparison are summarized in table 21, and lead to the conclusion that in present circumstances, in Latin America as a whole, annual expenditure per pupil in the entire educational system probably averages a little over 70 dollars. A preponderant influence on this average is exerted by primary education, which accounts for almost 85 per cent of the total school population; this again suggests that the general tendency of the estimates is to underestimate the magnitude of the problem.

Table 21

LATIN AMERICA: ESTIMATES OF ENROLMENT NUMBERS AND UNIT COSTS, 1965

	Number of students enrolled (thousands)	*Annual expenditure per student* [a] *(dollars)*
University education	*800*	*700*
Secondary education	*5,100*	*175*
General	3,300	155
Vocational	1,240 [b]	210
Training of primary-school teachers	560	210
Primary education	*32,900*	*42*
TOTAL	38,800 [b]	73

[a] Current expenditure only, excluding investment and other outlays.

[b] Excluding semi-vocational classes for girls (sewing, home economics, etc.)

An annual outlay of 42 dollars per primary-school pupil appears hardly likely to exceed the truth,[6] while the much higher figures estimated for the other levels—175 dollars in the case of secondary education and 700 dollars at the university stage—imply ratios to expenditure on primary education which seem to be corroborated by other estimates formulated independently.

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[6] On the assumption that 2 dollars per pupil represents expenditure on welfare services, the annual cost of education proper would be 40 dollars per pupil. If it is further assumed that two thirds of this figure is absorbed by the remuneration of teachers and that the number of pupils per teacher averages 33, the teacher's monthly salary works out at about 70 dollars, including contributions paid by the State or the private sector to the corresponding social security systems.

These data may afford a basis for exploration of the future development of financing requirements for education, in default of significant changes in the structure, performance and productivity of the region's educational systems. In very broad outline, such an undertaking involves the selection of a future period of reference; the projection of requirements in respect of the expansion of education and training services in line with social objectives and the needs deriving from development itself; and the prediction of certain changes in the absolute levels of specific costs, irrespective of any overhauling of the structure or policy of the educational services themselves.

In the first connexion, suffice it to recall the findings of chapter II, in which an attempt was made to evaluate the situation likely to develop by 1980, in the light of probable population trends, reasonable objectives for the expansion of basic education, hypotheses as to the growth of income and changes in the structure of the economy, with their repercussions on requirements in respect of technical and professional personnel at the various levels, and, in short, all the factors that would help to determine the educational profile of the population of Latin America by that date. It was concluded in the study that university education would have to be expanded by 70 per cent in relation to the existing services, apart from the changes that would have to be introduced in its composition by specialities; that a modest increase of 35 per cent would be needed in general secondary education, and a very substantial one (more than three times the existing figures) in technical education at the intermediate level and that primary education services would have to be more than doubled in order to fulfil social objectives and provide the indispensable groundwork of general education for those who were to continue their technical training at higher levels. In brief, by 1980 total enrolment numbers in the educational systems as a whole would reach almost 81 million, as against less than 40 million in 1965.

The implications of these projections in terms of demand for financial resources depend not only on the aggregate expansion envisaged, but also on the changes in the composition of the student body by levels and specialities, and also on factors that will inevitably make for a rise in unit costs.

To take the case of primary education, for which, under present conditions, annual current expenditure per pupil is estimated at 42 dollars, as mentioned above, it must be recognized that in the course of the fifteen years covered by the projections, the real remuneration of teachers will necessarily increase in at least the same proportion as average national *per capita* income. Some degree of improvement is also to be expected in the quality of primary education, with consequent effects on costs. Lastly, social objectives could not be attained without a considerable increase in the proportion of current expenditure earmarked for welfare services. All this would seem to warrant the fairly conservative hypothesis represented by an annual expenditure of 70 dollars per pupil in 1980.

Secondary education will necessarily be influenced by the same and by other additional factors. The foreseeable modification of the comparative importance of general secondary education as against intermediate-level vocational education—agricultural, technical, commercial—and the training of primary school teachers implies a relatively faster rate of expansion in those branches in which costs per pupil are higher. It is probable that at these levels too an increase in expenditure on welfare services—perhaps proportionally greater—will be required, partly with a view to increasing the number of scholarships, above all for particular specialities, such as agricultural and technical education.

Much the same will no doubt take place in university education, especially on account of the increasing relative importance of scientific and technical training, which entails heavier unit expenditure than education in the humanities.

The results of the relevant hypotheses are presented in table 22. In table 23 hypothetical estimates of investment and other expenditure are also presented in which ratios to current expenditure are kept more or less the same as at present, and account is taken of a few additional assumptions that seem warranted from several points of view.[7]

Table 22

LATIN AMERICA: HYPOTHETICAL PROJECTION OF ENROLMENT NUMBERS AND CURRENT EXPENDITURE ON EDUCATION BY 1980

	Enrolment numbers (thousands)	*Total current expenditure (millions of dollars at 1960 prices)*
University education	*1,300*	*1,300*
Secondary education	*9,600*	*3,400*
General	4,400	1,100
Vocational	4,400	1,800
Training of primary-school teachers	1.200	500
Primary education	*70,000*	*4,900*
TOTAL	80,900	9,600

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[7] In particular, a more rapid increase in allocations for university research is envisaged, and it is assumed that out-of-school and informal educational activities will expand to a very marked extent.

Table 23

LATIN AMERICA: HYPOTHETICAL PROJECTION OF TOTAL DEMAND FOR EDUCATIONAL FINANCING BY 1980

(Millions of dollars at 1960 prices)

	Total	*Current expenditure*	*Investment and other expenditure*
University education	*1,500*	*1,300*	*200*
Secondary education	*3,600*	*3,400*	*200*
General		1,100	
Vocational		1,800	
Training of primary-school teachers		500	
Primary education	*5,400*	*4,900*	*500*
Out-of-school and informal educational activities	500		
TOTAL	11,000	9,600	900

In the upshot, total demand for educational financing in 1980 is estimated, on the basis of this series of hypothetical calculations, at an annual sum of about 11,000 million dollars. This would signify not only a very considerable increase over present levels, since it would mean that the allocations registered in 1965 were more than trebled, but also a substantial rise in the proportion of national income represented by the resources in question. Even if the relatively optimistic hypothesis were adopted that in the next fifteen years the total domestic product will be more than doubled, expenditure on education would come to represent no less than 5.5 per cent of the aggregate product.

Stress should be laid on the nature of these quantitative examples. They are not intended to justify a specific objective as regards the allocation of resources to education, for the decision involved could only be based on explicit definitions of several basic aspects of development policy, and furthermore would have to be adapted to the special—and often widely differing—conditions prevailing in each individual Latin American country. All that is attempted is to foresee certain orders of magnitude which help to place the problem of financing for education in a broader context, in the light of the implications that would derive from the maintenance of the existing structures, guiding principles and operational patterns of the region's educational systems.

3. DIFFICULTIES OF MEETING THE DEMAND FOR RESOURCES

To judge from the illustrative estimates presented in the foregoing section, the absorption of the accrued deficit and the maintenance of an educational structure in line with social aspirations and development requirements would represent, in the immediate future, a financial effort that hardly any of the Latin American countries is in a position to tackle for the time being. This confirms the assertion that the difficulty lies not merely in the proportion of budget allocations earmarked for education, but in basic limitations deriving from over-all national income levels.

The countries that are coping more satisfactorily with the problem—in Europe, and the United States, for example—enjoy *per capita* income levels six or ten times as high as the Latin American average, and this disparity is necessarily reflected in similarly substantial differences in the resources available for meeting the requirements of development in general and education in particular. In many of the countries in question not only the levels but also the growth rates of *per capita* income are much higher than in Latin America, and as a rule the proportion of funds channelled through the public sector is also greater.

Population structure itself, from this standpoint, is one of the factors that aggravate the difficulties encountered by the Latin American countries. Whereas the proportion of the total number of inhabitants represented by the school-age population (5 to 19 years) is 29 per cent in the United States and 22 per cent in Western Europe, in Latin America it is nearly 36 per cent. This means that in the last-named region the scanty income of a smaller proportion of economically-active population has to defray the expenses of a larger proportion of school-age population. Generally speaking, the average dependency rate in Latin America is high: 84 persons under 15 or over 65 years of age to every 100 persons in the 15-64 age group. Such a ratio implies that both the family and the State have to shoulder a very heavy burden if young people are to attend school for a sufficient length of time and receive the type of education called for by a modern society. In practice, most boys and girls enter the labour market at a very early age, so that their earnings may augment the family income. At the same time, the number of children reaching school age every year increases faster than the total population, so that the number of school places must be raised by over 3 per cent *per annum* merely in order to prevent the existing shortages from becoming still worse.

Thus, demographic characteristics, in conjunction with the handicaps deriving from the absolute level and slow growth rate of income, decisively influence the Latin American economies' capacity to generate a larger volume of resources assignable to education.

Furthermore, the limitations stemming from these factors affect not only the financing of educational services proper, but also the capacity of the population to make use of the services in question. To make matters worse, not only are income levels low in Latin America, but in addition income distribution by population sectors and socio-economic strata shows a much higher degree of concentration than in the more developed countries.

Since the educand plays the twofold role of *object* and *subject* in the process of education and vocational training, his "purchasing power" and his possibilities of making full use of the supply of educational services are of course essentially contingent upon his level of living and social status.

Education and vocational training constitute a complex activity, embracing not merely the inculcation of knowledge but, basically, a process of mental and emotional assimilation and transformation that the individual educand must experience and consolidate. Moreover, this process, especially at the primary and secondary levels, claims the pupil's full-time attention, which means that he cannot support himself or defray the wide range of costs involved in his education. In both these connexions, the family's income level and living conditions—especially in respect of diet, health, clothing, etc.—are factors of decisive importance for the effectiveness and the standard of performance of educational activities.

The foregoing statement applies particularly to Latin America, where large sectors of the population in the lower income strata are not really in a position to meet the supplementary costs under discussion, or to guarantee the pupil the minimum standard of maintenance necessary to enable him to take full advantage of the educational service to which he has access. The situation is more unsatisfactory still if, as in the case of private schools, the direct costs also have to be covered.

In practice, access to educational services and their full utilization are decisively conditioned by family income levels. This partly accounts for the fact that families in the lower income strata are at the same time those most seriously affected by illiteracy and lack of vocational training, as also by the shortfalls characterizing the other components of their level of living and social situation. The width of disparities in income distribution in Latin America, and the significance of these disparities in terms of the real level and composition of expenditure of at least 50 per cent of Latin American households, are matters of common knowledge, whatever the reservations that need to be made on the statistical bases for qualification of these disparities.[8]

Even if access to educational services without payment of fees is really guaranteed, the sectors in question would find it difficult to meet the supplementary costs of education—school uniforms, textbooks and stationery, etc.—and the indirect costs represented by the minimum level of maintenance appropriate to the pupil's needs.

This situation, together with staffing deficiencies, explains not only why large population sectors are virtually excluded from the educational system, but also why a considerable proportion of the pupils who do attend school have to repeat each year's course at least once, a state of affairs that reaches its crisis in the higher grades at the different levels of education. For example, although enrolment in the first grades of each level has substantially and progressively increased during the last ten years, this has not resulted in a proportional rise in the number of those completing the educational cycle concerned. For the public sector to cover the supplementary and indirect costs of education on behalf of the social strata that cannot do so on their own account would imply a tremendous additional demand for financing.

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[8] See, for example, the section entitled "Presumed distribution of income in Latin America" in *The economic development of Latin America in the post-war period* (United Nations publication, Sales No.: 64.II.G.6), pp. 63-66; and "Estudios sobre la distribución del ingreso en América Latina" (E/CN.12/770 and Add.1).

4. RESOURCES FOR EDUCATION

The calculations above point to a conclusion that, in any case, is by now obvious to educational planners: the strain between public resource limitations and educational demands will become increasingly severe during the foreseeable future. The search for ways to alleviate the strain takes two main directions. On the one hand, it is agreed that resources will have to be used more efficiently and directed towards clearly defined priority objectives. This requisite has been examined from several viewpoints in the course of the present work and will be returned to below. On the other hand, the present and potential sources of educational financing are being examined with a view to the shifting of a larger part of the burden to the "private sector", or to external aid, and to the more effective protection of education's share of resources against competing claims. A review of the potential alternative sources of financing, however, indicates that all of them present inherent limitations and disadvantages as well as opportunities. Their usefulness seems to lie rather in the filling of specific deficiencies and in the attainment of greater flexibility in the meeting of local demands and immediate requirements for specialized training than in lightening of the over-all burden upon public resources.

(a) *Education and public expenditure*

In all Latin American countries, the greater part of the resources directly allocated to education comes from general public revenues (whether at the national level or, in federally organized countries, at the state level). If education is to respond to the objectives of income redistribution and human resources development, educational dependence on general public revenues can be expected to increase rather than decrease. In the countries in which education now accounts for 20 per cent or more of public expenditures and 4 per cent or more of the product, a significant improvement in its financial support will have to depend on a combination of three trends: increase in the product *per capita*; increase in the share of the product captured by the public sector; and reduction in the share of public expenditure devoted to armaments and other non-developmental purposes. Moreover, the ability of education to take advantage of such favourable trends will be restricted by the claims of economic investment and by pressures from other sectors of public social action that have been relatively neglected up to the present. In some other countries, the relatively low percentages of public expenditures and of national product now devoted to education imply that education can reasonably demand a larger share of present resources, but present trends are likely to bring these countries to the limits already reached by the first group within the near future.

(b) *Education and income from special sources*

All of the social sectors in Latin America have come to depend in part on earmarked taxes and income from special sources granted by national legislation (e.g., lotteries). This trend has derived from the multiplicity of special interests exerting pressure for allocations, and the insufficiency or undependability of general revenues. Institutions and programmes within each of the social sectors have tried to protect their sources of income by separating them from the over-all pool of resources to be allocated by the public authorities. Earmarked revenues will no doubt continue to be of importance to education through the foreseeable future, but it is far from desirable that this importance should increase. The proliferation of earmarked taxes is contrary to sound principles of public financing and is the antithesis of planning; it is justifiable only by disbelief in the capacity of the authorities to allocate resources in accordance with priority needs. The resulting complexities in the tax systems mean high administrative costs of collection and distribution and act as disincentives to economic growth. Within the educational sector itself, the capacity for planning inevitably shrinks as the share of income permanently attached to specific programmes and institutions increases. At the same time, the apparent security of income can be transformed into a straitjacket for programmes deserving high priority, if needs increase—as they nearly always do in education—while the source of revenue remains static.

(c) *The municipalities and education*

In a good many countries the municipalities have, in principle, certain responsibilities for support of education. Municipal revenues, however, are generally very small and the municipalities' actual contributions to education are correspondingly limited. This is a source of educational income of considerable potential importance, but its realization depends on the finding of workable solutions to a broader problem that is now under discussion throughout Latin America: the strengthening of municipalities so as to enable them to accomplish a number of social and economic functions that they should be able to handle more effectively and flexibly than the national public agencies. This objective requires that the municipal authorities should become more representative of all strata of the local population, that training and technical assistance in their tasks should be made available to them, and that they should receive adequate local sources of revenue, in particular the power to levy taxes on property. In education the use of this resource for the foreseeable future will, at best, be limited by the poverty and low administrative capacities of the predominantly rural municipalities where educational deficiencies are greatest. If municipal financing were relied on as a major alternative to national allocations, it would give an even more pronounced advantage than at present to a few urban municipalities with relatively high income levels and taxing capacity. In education as in other social sectors, grants-in-aid to the municipalities may be a promising means of stimulating local initiative, but the main burden of costs would continue to fall on national general revenue. In practice, there is some danger that the poorer and less influential municipalities might be expected to meet a larger share of their needs from self-help than the others, although the reverse should be the case in any system responding to present objectives of income redistribution.

(d) *Education, the private sector and free schooling*

The "private sector" has recently received a good deal of attention as a potential source of increased support for education. The private sector, however, is an abstraction that covers several disparate sources of support and several different types of educational institutions. For the purposes of a comprehensive policy of educational financing these sources and institutions need to be carefully distinguished, along with their differing advantages and limitations.

All *families* with children in school make both direct and indirect contributions to the cost of their education. Even when no tuition fees are charged, direct costs include textbooks and other school supplies, uniforms and transport. Indirect costs, much more important, comprise maintenance of the student and forgoing of his potential contribution to family income.[9] It is probable that the contributions along these lines of the majority of the families of Latin America are already close to their economic capacities. The trouble is that their capacities, under the present distribution of incomes, are so far apart. It has already been suggested that effective education for the low-income majority will require that the State assume a part of the present indirect burden on the family. At the other extreme, it is obvious that a considerable number of upper-income families could meet the direct cost of the education their children now receive free of tuition, particularly at the university level. The provision of free services that are accessible only to relatively well-off minorities constitutes an anomaly, and various public authorities are now considering the charging of fees in accordance with ability to pay. As long as income distribution continues to show as high a degree of concentration as at present in most of the Latin American countries, the non-existence of any obligation to repay for those in a position to assume it deprives the State of a legitimate source of funds for the extension of the educational services themselves, and the indiscriminate provision of "free" education does not necessarily signify effective public action to promote income redistribution. Such fees, however, can at most do no more than offset the new costs of meeting the needs, practically ignored up to the present, of scholarships and other educational aid required to enable qualified young people from lower-income families to maintain themselves at the middle and higher educational levels. They do not promise a significant contribution to general educational costs.

Moreover, there are strong reasons for doubt as to whether such a policy will be an effective means of relating educational costs to ability to pay in the specific circumstances of Latin America. Strong resistances can be expected; the determination of ability to pay will involve continual struggles and new sources of administrative expense; and organized pressures are likely to bring about a complicated system of exemptions and privileges. In the long run, it will probably be more efficient and equitable to raise the contribution of upper-income families through the general system of progressive taxation.

The most hopeful possibility for a net increment to educational resources from the families seems to lie in another direction—in voluntary contributions of labour, materials, etc., for the building and maintenance of schools and, in co-operation with teachers, for improvement of the quality of education. Such initiatives are most relevant at the primary level and have already achieved promising results in some rural areas, but they conflict with the centralized and bureaucratic character of most of the school systems. The further growth of such voluntary contributions depends partly on the invigoration of local government already mentioned and partly on the ability of the school systems to offer education that responds to strongly felt local needs. As in the case of municipal financing, the likelihood also appears that low-income families in zones where educational services are most deficient will be exhorted to make an effort that is not expected of better-off families already served by the public schools.

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[9] Measurement of the indirect contribution raises various problems that cannot be discussed here. Some calculations have attributed to it a large part of the cost of education in terms of national income forgone. In societies in which concealed unemployment is extensive, as in most of Latin America, this seems hardly justifiable, since the economic activity relinquished by the student will presumably be filled by someone, and the putative deduction from national income has no relation to the real burden assumed by the individual family.

Employers are called upon for two quite different kinds of contribution to education.

First, certain categories of enterprises (usually those employing a considerable number of workers in zones remote from urban centres served by schools, as in mines and plantations) are in various countries required by law to establish primary schools for the children of their workers. This seems to be an unavoidable expedient in the earlier stages of educational expansion, and in much of Latin America there is room for some increase in the resources derived from this source. The expedient has several obvious disadvantages in comparison with a system of publicly financed and directed schools, but its main difficulty, for countries that cannot universalize the public system in the short term, is that where the need is greatest, as in the traditional *haciendas*, the capacity of the authorities to enforce the legal requirement is smallest. In these settings, moreover, the progress of agrarian reform can be expected to reduce the relevance of laws providing for employer-supported schools and return the problem of schooling for children of agrarian reform beneficiaries directly to the public sector.

Second, industrial and commercial employers are expected to support (individually or collectively) part-time education and non-formal training for their own workers and their prospective labour force. Various systems financed by enterprises have expanded vigorously in recent years, and here the employers have direct practical incentives for taking the initiative. As indicated in chapter II, this area of educational growth offers particular promise of producing some of the skills most urgently needed for development more flexibly and inexpensively than full-time technical-vocational schools. The methods themselves are not confined to the private sector; to the extent that the public sector embraces economically productive activities the same forms of training become relevant to its needs. As a means of supplementing over-all educational resources, however, enterprise-financed education and training have their own limitations. They cannot be extended far beyond the immediate needs of the enterprises for specific skills and are thus likely to be unbalanced in relation to the longer-term and broader requirements of development. To the extent that the State tries to incorporate these broader requirements, tax incentives, subsidies and technical assistance will be called for; a large part of the ultimate cost will fall back on the public sector. In many instances also, the cost is likely to be passed on to the public through higher prices for the goods produced by the enterprises.

While *private educational institutions* are of minor importance quantitatively at the primary and higher levels, they account for high percentages of middle-level enrolment in practically all countries of the region. Out of sixteen countries for which data are cited in a recent UNESCO document, private enrolment constitutes more than 50 per cent of the total in three, between 40 and 50 per cent in five; between 30 and 40 in four; and between 20 and 30 in three; Cuba alone has no private enrolment. In academic secondary education, the percentages of private enrolment are much higher than in middle-level education as a whole, and this has been an important means of restricting entry into the "free" universities. In practice, the high private middle-level enrolment does not mean an equivalent easing of the burden upon public resources, since the private schools in most countries receive subventions from the State in addition to tax exemptions. In Argentina, for instance, such subventions cover 68 per cent of the costs of private middle-level schools. The present capacity of the private schools seems more than sufficient for the market represented by families able to meet the full costs of middle-level education for their children. The present subventions are often conditioned on the provision of education free of fees, and further expansion and equalization of opportunities for private education would depend mainly on increased support from public revenues. The net contribution from the private sector would hardly compensate for the reduction in State capacity to plan middle-level education and the extension of subsidized special advantages in access enjoyed by upper-income families.

Private universities constitute a relatively small (though rising) sector of higher education, and presumably have opportunities to benefit from endowments, bequests, external aid, and grants from enterprises for specialized training and research that are less accessible to the public universities. In general, however, they receive only a small part of their income from student fees and depend heavily on public subventions; the limited importance of fees in contrast to their role at the secondary level is striking. Present trends point to a gradual blurring of the dividing line between autonomous public universities and publicly-subsidized private universities, in sources of funds as well as forms of self-government. Here too the possibilities of increasing the real private sector contribution seem to be small, while the claims upon public resources are sure to become more insistent.

(e) *Education and external financing*

In education as in other social sectors, the combination in the 1961 and subsequent regional agreements of specific social objectives with the promise of large-scale development loans and grants has encouraged national authorities to look to external aid to fill the gap between needs and resources. Various economists, however, have pointed out that the earmarking of external aid for social programmes, once it passes a certain limit, is illusory. The limiting factor is that an overwhelmingly high proportion of the real resources to be covered by financial allocations to education are domestic. The money is used to pay school teachers, administrators and school construction and maintenance workers; to buy locally produced school supplies and building materials, etc. The allocation of foreign exchange to education does not increase the supply of these resources except to the extent that they can be imported. The proportion of educational expenditures to which foreign exchange can be directly applied probably does not exceed very greatly the 7 or 8 per cent at which its level has been estimated for Latin America as a whole. Benjamin Higgins reaches the following conclusion:

> "It is clear enough from some of the statements regarding external financing of education that what those interested in expanding educational programmes, and particularly Ministers of Education, really have in mind is increased allocations in domestic currency, to acquire human and physical resources domestically available, while the foreign exchange is utilized for other projects within the over-all economic and social development programme. Certainly, in so far as expansion of the education programme requires the attraction of human and physical resources from other fields of activity, thus reducing the output of other goods and services and adding to inflationary pressure, increased foreign exchange may be used to import raw materials and equipment for other projects, or even to import final consumer goods, thus offsetting inflationary pressure. In this way any harmful effects of expanding the educational programme may be off-set. However, it should be noted that in this event there is absolutely no significance in first attaching the foreign assistance to educational programmes. The ultimate result is exactly the same if the external assistance is provided against the economic and social development programme as a whole, and in that event there is less likelihood of misallocation of the actual foreign exchange provided. Ministries of Education seldom have particular expertise in over-all economic and social development programming, and accordingly it is preferable that foreign exchange which will in fact not be utilized for educational purpose should not be allocated to Ministries of Education." [10]

It thus appears that external aid, while it may increase the size of the pool of resources available for development purposes, will not enable the educational authorities to avoid the necessity of drawing most of their resources from this pool, in competition with the whole range of claims upon it.

In primary and middle-level education the most likely area for increased external aid lies in the provision of food that would relieve some of the indirect burden on low-income families and enhance the children's capacity for study.

In higher education, the direct uses of foreign exchange are more important than at the other levels, since there are often sound justifications for importing professors and expensive equipment and for sending students abroad. In fact, most of the external educational loans and grants to Latin America thus far have been directed to the universities. Even here, however, the use of external aid requires effective planning and firm decisions on priorities if it is not to bring as many problems as it solves. Loans and grants are usually tied to specific projects and call for counterpart national expenditures at least matching the external contribution.[11] Direct contributions of professors and equipment also require counterpart expenditures and present difficulties of adaptation to local needs and capacities. The costs of housing and maintaining the new equipment can be quite high. Unless the negotiations for external aid are controlled by a planning body with a clear conception of priorities and of the extent of supplementary costs—which is nowhere the case as yet—the individual institutions are tempted to allow their own lines of growth to be determined by the projects that seem most likely to attract external aid, and then to use the aid as a justification for larger claims upon national resources.

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[10] "Investment in education in Latin America", op. cit., p. 14. Similar conclusions on the limitations of external aid are set forth by John Vaizey in "Incidences financiéres et politiques des plans d'éducation", in *Conférences et essais méthodoliques sur la planification de l'éducation* (Paris, Organisation de Coopération et de Développement Economiques (OECD), 1966), pp. 77-89.

To sum up, the only way of meeting the main body of educational costs that satisfies the various criteria of social justice, efficiency and compatibility with planning is through allocations from a general pool of public revenue derived from a progressive and effective tax system.

5. OPERATIONAL EFFICIENCY OF EDUCATIONAL SYSTEMS AND PRODUCTIVITY OF RESOURCES APPLIED

Many reports and studies on particular aspects of the problem show that a major proportion of the human, economic, technological and material resources applied in education are generally characterized by very low rates of productivity. The shortcomings in this field affect practically all the links and factors in the educational process. In many instances, the efficiency of the teaching and auxiliary personnel is undermined by lack of proper training, want of motivation or difficulties stemming from the administrative organization concerned. The curricula are usually unsatisfactory in content and orientation, and embody repetition, duplication of effort, and inconsistencies that lead to a considerable waste of teaching activity. Current teaching methods often fail to incorporate new techniques based on scientific criteria and methods, and out-of-date textbooks and teaching material are still used. Premises and basic equipment (sometimes of inappropriate design) are put to only partial use for a single institution, programme or course, and no real grasp of the principle of economies of scale is shown. Administrative services are often unnecessarily duplicated, and, in addition, little attempt is made to keep their operational techniques up to date.

Some of these problems are apt to become more serious at the level of higher education, through duplication or inadequate co-ordination of research work or dissipation of activities among teaching and research centres housed in scattered premises; such conditions hinder the attainment of higher standards of efficiency in the use of human resources, and lead to under-utilization of laboratories, equipment, libraries and workshops.

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[11] Up to the end of 1966, the Inter-American Development Bank had approved thirty-five loans for seventy-three centres of higher education, totalling 65 million dollars. The total cost of the projects for which loans were approved is estimated at 153 million.

Although there are no systematic studies of the problem that cover the region as a whole, many indicators suggest that educational systems make very inefficient use of the resources at their disposal, that there is no relation between the use of those resources and the level of *per capita* income, and that priorities are not established in terms of the real situation of the educational system from the standpoint of the objectives which it is supposed to be pursuing. One aspect of this inefficiency to which attention is often drawn is the fact that the proportion of non-teaching administrative and general-services personnel in the education sector invariably seems very high, and, to make matters worse, is steadily rising. The number of administrative personnel increases faster than the numbers of teaching staff, pupils and students, etc. Since at the same time there is a shortage of personnel qualified to perform the new tasks for which need arises, some new appointments are justified; but they take the form of accretions rather than replacements. In Peru—to cite a single case in point, which is certainly not the worst—at the level of general secondary education the ratios of administrative and services personnel to teaching staff are 1:3.4 and 1:4.7 respectively. In technical education for industry the proportions are slightly lower.[12] The increase in non-teaching personnel, especially in the capital, has been enormous in the past few years. There is every sign that a process of bureaucratization whose ideal seems to be a ratio of one official per pupil has occurred not only at those educational levels which are directly dependent upon the ministries, but also in the autonomous universities.

Another feature mentioned in many of the plans that have already been prepared is the duplication to which allusion has often been made in the present study, especially with reference to the universities. The want of a proper conception of the civil service aggravates this state of affairs. When new Governments take office, they sometimes replace those members of the former administration who did not support them; but the increasingly common practice is simply to appoint additional staff, or in education as in other fields, to set up parallel offices under the direction of persons sympathizing with the Government, which will be consulted while the older agencies are left to vegetate. Thus, as years go by, there may be three or four offices performing very similar tasks, with the result that costs are enormously increased.

Apart from other manifestations of inefficiency, those that take the form of dropping-out and prolongation of studies are thrown into relief if costs per student are compared with costs per graduate (at any educational level). Studies are not available for all countries in this connexion, but for purely illustrative purposes a few fairly general observations may be made. Division of the cost per graduate by the cost per student will give the number of years of expenditure per student required to produce a graduate. If this figure is compared with the corresponding estimates in the plans, a fairly accurate idea of the waste of resources will be obtained. In the case of primary education, the number of years in question works out at 13.0 in Uruguay, 14.4 in El Salvador and 50.0 in the Dominican Republic, as compared with the 6 years usually planned for. At the level of general secondary education, the corresponding figures are, in the case of Uruguay, 29.0 years (probably a good deal less if allowance is made for the method of calculation, but about 20 years at least) as against a theoretical duration of 6 years; and in the case of El Salvador, 26.6 years as against 5 years in theory. At the university level, within a very unsatisfactory over-all picture, wide disparities are found between the various disciplines in one and the same country. For example, in Uruguay the results obtained are 17.5 for agronomy, 38.3 for architecture, 42.9 for economics, 28.2 for law, 12.3 for engineering, 16.8 for medicine and 530.1 for arts and sciences, an area of study in which it is difficult to distinguish between non-production of professionals and non-production of graduates. In El Salvador the numbers of cost-years in all faculties except arts are even higher: 24 for odontology, 32.9 for chemistry, 147.7 for economics, and 37.0 for arts courses, to mention only a few examples. In both countries, the duration of the courses ranges from 4 to 6 years according to the plan, 6-year courses predominating in Uruguay. These figures imply that in terms of production of qualified personnel at all levels in relation to development requirements the educational systems are exceptionally costly—far more so than seems reasonable in countries like those of Latin America.

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[12] See the section on education in Peru's *Plan de Desarrollo Económico y Social* 1967-1970, section 2, p. 11.

It seems less relevant to present purposes to dwell on the enumeration of such factors and the evaluation of their effects—topics that require detailed study—than to investigate some of the general causes to which their existence may be ascribed. One of these is perhaps to be found in the widespread prevalence of certain attitudes towards current expenditure and investment for educational purposes.

Although inefficiency is by no means peculiar to the educational sector, it does seem to be intensified by the absence of a sense of economy or productivity in the operation of the educational services. The concept of education as an end in itself—unquestionably legitimate up to a point—is liable to beguile its adherents into repudiating all criteria for the measurement and evaluation of the system's operational results, and into regarding expenditure on education as set apart by its very nature from anything to do with productivity. Hence it seems natural for financing to be granted to institutions and individuals on the sole condition that it should be earmarked for educational activities of some kind or other, irrespective of reasonable standards of efficiency in its utilization.

This attitude becomes an important ingredient in the problem of financing education, inasmuch as it helps to prevent the educational systems themselves from doing what they can, by increasing their own internal efficiency, to bridge the gap between educational expansion requirements and the limited amount of resources available to meet them.

The attitude in question, which usually characterizes those discharging the various functions involved in the educational process, finds its counterpart—perhaps more marked and more widespread—in another, different in kind but similar in its effects, adopted by those who use the services. The tendency to accord expenditure on education a treatment so liberal that resources are allocated without any clearly defined intention of recovering them leads the users of the services to feel themselves exempt from responsibility with regard to the efficiency of the system, both in so far as it depends upon their own activity and in respect of the indirect pressure for its improvement that they could exert.

The general causes of the expansion of the tertiary and services sector in Latin American societies, and particularly in the larger towns, are powerfully operative in the case of educational administration. As already pointed out, education is so significant a source of employment that in many countries it ranks second only to the primary sector in this respect.

Lastly, educational personnel usually form important pressure groups. Although the situation varies considerably from one country to another, in many the power wielded by primary school teachers' associations, in combination with the frequent shortages of qualified teaching personnel, is reflected in extremely onerous pension systems and in salaries that are extremely high in relation to the actual work done according to the timetables. Another interesting fact is that while the salary of a member of the permanent teaching staff in an institute of higher education is normally from 4 to 5 times the *per capita* income figure in the United States, in many parts of Latin America teachers at the same level earn from 20 to 25 times the *per capita* income of their countries. Even in absolute terms, the remuneration of teachers is barely 30 per cent lower than that of their opposite numbers in the United States. It is precisely in the poorer countries that this is the case, whereas, except in Venezuela, university staff are decidedly ill-paid in the countries at more advanced stages of development. Thus, a concatenation of peculiar circumstances tends to make expenditure on education irrational in the extreme.

6. STRATEGY FOR THE EXPANSION OF EDUCATIONAL SERVICES IN FACE OF FINANCING DIFFICULTIES AND DEVELOPMENT REQUIREMENTS

The foregoing comments on the nature and magnitude of the problem of financing for education and vocational training in Latin America would seem to lead to two conclusions In the first place, the problem stems essentially from the urgent need for a significant extension of general educational services to larger sectors of the population, and for the expansion and adaptation of professional, technical and skilled manpower training at all the various levels. Secondly, it becomes more complex and assumes more serious proportions as a result of the low level of operational efficiency and the basic structural maladjustment which characterize the services, and are reflected in waste of resources and extra costs, thus detracting from the productivity of funds allocated to education.

Up to a point, and particularly where wealthy countries are concerned, these two aspects of the problem can be defined and tackled separately; but in the specific case of Latin America, owing to the general shortage of financial resources, the satisfaction of the first requirement is inextricably linked to achievements in the second field. What is more, any effort that might be made to augment the available funds would be largely offset by the constant and systematic drain on these resources involved in the unsuitable orientation and low operational efficiency of the educational systems.

Accordingly, it is not enough to base proposed solutions for the educational financing problem on a substantial increase in current allocations. This would be an unrealistic approach in view of the over-all framework of the Latin American economy and the manifold demands that have their origin in every sector of activity and in the various forms of social aspiration. Moreover, in a good many countries the allocations in question have already come to represent significant proportions of total national income and public expenditure, with no consequent development of efficient educational services adapted to the needs of contemporary society. The consequence may be the saturation of specific occupational markets with contingents of graduates who cannot find work suited to their qualifications, and are compelled either to tie themselves down to petty and frustrating administrative jobs or to emigrate to the international labour market, while in the very countries concerned there is a serious lack of specialists in other branches of activity, and particularly of intermediate-level technicians and highly skilled manpower.

It would be difficult to devise entirely satisfactory solutions for the problem of the basic incompatibility between, on the one hand, the aim of substantially and rapidly improving educational levels and, on the other, the limited resources available for its fulfilment, which at the same time would take due account of the requirements of development itself. But at least it seems clear that the approach adopted must be different from the traditional "strategy", and that a transitional or emergency period must be envisaged, during which standards would be accepted for utilization of funds, education and training patterns, and modes of contributing to financial requirements, that might not be desirable on a permanent basis but could be applied as long as the economic situation was inadequate for the maintenance of systems similar in structure and operation to those of more developed countries.

It seems advisable that this strategy should be based, *inter alia*, on the following three essential components:

1. Introduction of the innovations required to make the structure of educational services more compatible with development levels and requirements;

2. Reform of the whole process of technical operation of the educational and vocational training system, with a veiw to a rapid improvement in levels of performance;

3. Establishment of an organic system of mobilization of resources for the development of educational services, based mainly on revenue accruing from an equitable and efficient tax system, but also involving the participation and commitment of all political and administrative, economic and social sectors.

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